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ABSTRACT

In September 1989, the National Institute on Drug Abuse (NIDA), with the collaboration of the National Institute of Justice (NIJ), held a technical review meeting focusing on the relationships of drugs and violence. Data from a number of NIDA and NIJ-funded research projects addressing different aspects of these relationships were presented and are included in this monograph. Following a foreword and an introduction, the articles are as follows: (1) "Violence as Regulation and Social Control in the Distribution of Crack" (Jeffrey Fagan and Ko-lin Chin); (2) "Violence Associated with Acute Cocaine Use in Patients Admitted to a Medical Emergency Department" (Steven L. Brody); (3) The Operational Styles of Crack Houses in Detroit (Tom Mieczkowski); (4) "The Crack-Violence Connection Within a Population of Hard-Core Adolescent Offenders" (James A. Inciardi); (5) "The Relationship between Cocaine Use, Drug Sales, and Other Delinquency among a Cohort of High-Risk Youths over Time" (Richard Dembo, Linda Williams, Werner Wothke, James Schmeidler, Alan Getreu, Estrellita Berry, Eric D. Wish, and Candice Christensen); (6) "The Drug Use-Violent Delinquency Link among Adolescent Mexican-Americans" (W. David Watts and Loyd S. Wright); (7) "Gangs, Drugs, and Violence" (Joan Moore); (8) "The Interrelationships between Alcohol and Drugs and Family Violence" (Brenda A. Miller); (9) "Drug-Related Violence and Street Prostitution" (Claire E. Sterk, Kirk W. Elifson); (10) "Drug Disorder, Mental Illness, and Violence" (Karen M. Abram, Linda A. Teplin); (11) "Who's Right: Different Outcomes When Police and Scientists View the Same Set of Homicide Events, New York City, 1988" (Patrick J. Ryan, Paul J. Goldstein, Henry H. Brownstein, Patricia A. Bellucci); and (12) "Summary Thoughts about Drugs and Violence" (James J. Collins). (LLL)

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Drugs and Violence: Causes, Correlates, and Consequences

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Drugs and Violence: Causes, Correlates, and Consequences

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Foreword

Drug abuse and drug-related violence are among the greatest concerns of our citizens. There is a growing interest on the part of researchers, the public, and all levels of our government in the causes, correlates, and consequences of drugs and violence—both for better understanding of these phenomena and for improving our efforts at converting understanding into more effective prevention and control programs.

Many factors, such as the emergence of relatively cheap and widely available crack cocaine and widespread violence in drug trafficking, influence the increase in drug-related violence within and outside the United States. The challenge to public health and law enforcement communities is to develop strategies for intervention and control that work. These are priority issues within the missions and research agendas of both the National Institute on Drug Abuse (NIDA) and the National Institute of Justice (NIJ).

On September 26–27, 1989, NIDA, with the collaboration of NIJ, held a Technical Review meeting on "Drugs and Violence." The focus of this meeting was to review recent research advances made in the study of the relationships between drugs and violence. Data from a number of NIDA- and NIJ-funded research projects addressing different aspects of these relationships were presented and are included in this monograph. This meeting and monograph underscore the continuing collaborative research efforts by NIDA and NIJ to explore the linkages between drug use and violence and other criminal behaviors.

The studies presented here represent only a sampling of the types of basic and applied research efforts that contribute to development of a sound informational base from which health providers and law enforcement officials can develop more effective strategies and programs to combat these problems. It is hoped that this monograph will serve as a framework for further efforts in these areas and help us reach our common goals of making our society—and our world—a safer and healthier place to live.

Charles R. Schuster, Ph.D.
Director
National Institute on Drug Abuse

The National Drug Control Strategy indicates that our Nation's success in overcoming the problems of drug abuse and drug-related crime depends upon the efforts of all our citizens and all agencies of Government. The strategy provides a comprehensive framework and a balanced approach for our priorities in prevention and control, supply and demand reduction, law enforcement and treatment, research, and evaluation.

Research plays a vital role in supporting these efforts by assessing the nature and extent of the problems, developing the scientific and technical bases for effective public policies, identifying and assessing programmatic options, and evaluating the impacts of our drug control interventions.

The studies on drugs and violence within this volume exemplify the collaborative relationships between the research programs of the National Institute of Justice in the Department of Justice and the National Institute on Drug Abuse in the Department of Health and Human Services on these priority issues.

The chapters encompass both qualitative and quantitative approaches to research, including: the development of conceptual frameworks; the observation, description, treatment, prevention, and prediction of drug abuse and related violence; and the translation of definitions into practice for statistical databases and other applications. Though they focus on U.S. populations and conditions, foreign researchers and governments express continuing interest in our research methods, data, and approaches to addressing drug abuse, drug-related crime, and drug-related violence. This evidence reflects significant potential for making greater contributions to solving these drug problems that affect our Nation and the world.

Charles B. DeWitt
Director Designate
National Institute of Justice

Introduction: Exploring the Substance Abuse–Violence Connection

Mario De La Rosa, Elizabeth Y. Lambert, and Bernard Gropper

The complex relationships between substance abuse and violence have posed challenges to the research community and public health professions for decades. Research literature on drugs and violence abounds and continues to grow, with broad representation from the disciplines of education, medicine, sociology, criminology, epidemiology, and psychology. Understanding the causes, correlates, and consequences of drugs and violence is necessary to develop effective public health and law enforcement strategies for prevention and control. Some may despair, believing the links between substance abuse and violence to be inseparable and complex, and, therefore, believing that effective solutions cannot be found. Efforts to understand these relationships can contribute to a process for identifying ways to prevent their occurrence or to reduce their magnitude, severity, and their recent apparent intensification.

Links between alcohol abuse and violence have been recognized for years. Recently, new varieties of violence have emerged, largely in relation to the abuse and distribution of crack cocaine. The 1980s have seen a growing number of apparently "random" or "impersonal" homicides—that is, homicides of persons unknown or hardly known to their assailants. These so-called "hit men" style slayings have been linked to the crack trade, with drug dealers competing against other dealers to corner the market or preserve their territories. Victims are typically young boys or men and are often minorities living in inner cities. Occasionally, distinct patterns of injury can be recognized: drug runners, young teenagers who carry drugs and money between sellers and buyers, are being seen in emergency rooms more frequently with gunshot wounds to the legs and knees; a more vicious style of drug-related injury has emerged in the western part of the United

States. In this injury, known as "pithing," the victim's spinal cord is cut, and he or she is left alive, but paraplegic.

In the 1950s and 1960s, research on the relation between drug abuse and violence focused on criminal behaviors of narcotic addicts. It was generally accepted that opiate or heroin users were more likely to engage in nonviolent property crimes than in other types of crime. This was supported by data from major metropolitan areas showing a positive correlation between rates of heroin addiction and property crimes and a negative correlation between rates of heroin addiction and crimes against persons. Later research by Kozel and Dupont, Inciardi, Chambers, and Nurco lent additional support to these findings.

From research spanning the late 1960s to today, the primary substance implicated in violent crimes has been alcohol, far more often than illicit drugs. Alcohol abuse and violence are endemic to America's culture, dating back to the days of Prohibition, with violent rivalries between bootleggers, and existing as intensely today, with high rates of alcohol-mediated domestic violence, homicides, vehicular accidents, and traumatic injuries. With increased use of amphetamines in the 1970s and the development of cocaine distribution networks in the 1980s, research began to focus on the relation between psychopharmacologic effects of drug use and violent behavior and on systemic violence associated with drug-dealing lifestyles. The findings from these studies indicated that, although certain types of illicit drugs, e.g., stimulants, hallucinogens, may be associated with violent behavior, most psychopharmacologically induced violent crimes continued to involve alcohol. Violent crimes involving illicit drugs were more likely from trade transactions between drug dealers and drug users.

In the mid- to late 1980s, reports of increased violence from crack use and distribution networks among inner-city minority communities made it urgent for public health officials and epidemiologists to look into the intensifying problem and develop strategies for intervention and control. A product of this renewed research activity was Paul Goldstein's development of a conceptual framework to explain complexities between violence and drugs. Goldstein's tripartite theoretical model distinguishes three dimensions for understanding drugs and violence: *psychopharmacologic, economic compulsive,* and *systemic.* The psychopharmacologic dimension refers to effects of substances on behavior, as when consumers become irrational, excited, agitated, or unable to control their anger and violent impulses. The economic compulsive dimension refers to violent crime committed to obtain money or other forms of currency to purchase drugs for personal use. The systemic dimension addresses violence intrinsic to the lifestyles and business methods of drug distributors and traffickers.

This monograph reports findings from a variety of studies on aspects of the drug and violence nexus. Its chapters address a broad spectrum of issues,

including studies on violence and aggression in crack distribution networks in New York City and Detroit, MI; correlations between illicit drug abuse and domestic violence; links among gangs, drugs, and violence; crack and violence among juvenile delinquents, including delinquents who are Hispanic; the relation between prostitution, drugs, and violence; problems with using police data for research on drug-related violent crimes; neuropsychological effects of acute cocaine abuse on violent behavior; and links between mental illness, drugs, and violence. The monograph concludes with an examination of Goldstein's tripartite model as a conceptual framework for exploring, understanding, and predicting the causes, correlates, and consequences of drugs and violence.

The themes embodied within these manuscripts reflect both qualitative and quantitative approaches. The analytic focus is on the individual and small to mid-sized groups such as the gang and the family. These are the most relevant units of inquiry for most problems of the etiology of drug use and abuse and the types of drug-related violence experienced at the neighborhood, local, and State level. Although the focus of this volume is on current U.S. conditions, population, and subgroups, the underlying nature of the phenomena and the principles embodied in the research methods and findings are to some extent relevant to situations outside of the United States.

Drs. Fagan and Chin examine violence and aggression among a cohort of crack dealers and other illicit drug dealers in New York City. Unlike previous research on drug-related violence, Fagan and Chin's work explores possible origins of violence in drug selling. Specifically, it addresses whether violence in crack distribution networks tends to be contingent on drug-selling activities or is more reflective of a generalized pattern of crime and violence among those individuals involved in the crack or drug trade. Their results suggest that both conditions influence violence in crack selling. In general, crack sellers were more likely than other drug sellers to use violence for regulation and control, to be involved in other types of violent crimes, and to be immersed in a violent social world. Drs. Fagan and Chin hypothesize from these data that violence among crack sellers may be less a function of risks associated with the settings in which crack is sold, and more a function of individual predispositions toward violent lifestyles, even before such persons become involved in drug dealing.

Dr. Brody's chapter examines the relation between acute cocaine intoxication and aggression and violent behavior among a group of patients admitted to a hospital emergency department. The data presented suggest that more than half the cocaine-involved patients were combative and agitated, with symptoms of paranoia and delirium at the time of admission. As the effects of cocaine tend to subside rapidly, acute pharmacologic therapy for these individuals was rarely indicated. When it was necessary to treat cocaine-induced cases of acute psychosis, however, haloperidol was found to be relatively effective.

Dr. Mieczkowski further explores crack and violence among a group of drug dealers and users in Detroit. The objective was to identify methods used by local crack dealers to distribute cocaine at the retail level and to describe principles of management and organization that typify these methods. Results indicate that crack dealers and users practice three distinct but overlapping distribution and selling methods. These are (1) the street-corner or walkup sale system, (2) the beeper and runner system, and (3) the crack-house system, the preferred method of most crack dealers. The operational styles associated with each method reflect economic principles and practices seen in legitimate businesses. For example, Mieczkowski reports that crack-house operations ranged from very austere, in which social interaction between those conducting the crack transaction was severely restricted, to "tavern style" crack houses, in which socialization extended beyond the exchange of money for crack and often included exchanges of sex for drugs. Data further suggest that violence is more endemic to the street-corner or walkup sale system than to other methods of crack sale. One possible reason is that the social setting of the street drug-sale scene is less protected than either crack houses or the runner and beeper systems, leading dealers to gravitate toward violence to regulate and control their drug territories.

Dr. Inciardi's chapter explores patterns of violent criminal behavior and crack use among a cohort of seriously delinquent youth in Miami, FL. Dr. Inciardi found that youth who were more deeply involved in crack-dealing activities were more likely to commit violent crimes than those who were less involved with drugs and the crack distribution network. The majority of violent crimes either committed by the youths in the study or perpetrated against them (robberies) were to purchase drugs, followed by violent crimes related to drug trafficking and by drug-induced or psychopharmacologic violence.

The relation between drugs and violence is further examined by Drs. Dembo, Watts, and Wright, who, like Inciardi, address cocaine use, drug sales, and delinquency. Data from Dr. Dembo's research with a cohort of high-risk youths held in a regional detention center in Tampa indicate that involvement in drug sales was significantly and positively related to both nonviolent and violent crimes. The study found violent crimes to be significantly and directly related to involvement in drug sales. Results suggest that most violent and nonviolent crimes involving youth in this sample were related to the business of drug selling, as would be predicted by the systemic dimension of Goldstein's tripartite model.

The study by Watts and Wright explores correlations between drugs and violence among a cohort of Mexican-American youth. Correlation analysis of factors on violent delinquency among these youth revealed that illegal drug use contributed the greatest amount of variance, followed by friends' drug and tobacco use, lack of parental supervision, and family drug use. The interview results suggest that acculturation-related stress and familial

fragmentation between parents and children may contribute to both drug use and violent behavior among some youth.

Dr. Moore's chapter addresses a topic of increasing attention in our society today, the link between gangs, drugs, and violence. She argues that whatever we know about drug-related gang violence "comes almost entirely from the media and police, and it is almost always sensationalized." Her study of traditional Mexican-American gangs like the "White Fences" in East Los Angeles indicates that gang-related violence is in fact inherent to normal gang activities. But this violence is more often a function of intergang conflict than it is related to the drug trade. Although some youth gangs were found to be involved in drug-related violent criminal activities, this was not the norm for most. Drug-related violence stemmed from drug-dealing activities of individual gang members or former gang members more than from activities of the youth gang as an organized entity. Further, Dr. Moore and her associates argue that most of the gangs identified by law enforcement officials as heavily involved in drug-related criminal activities did not emerge from traditional youth gangs established in black and Hispanic communities before the onset of the crack epidemic. Rather, these groups grew out of criminal organizations formed solely for crack distribution and trafficking. As such, they have few if any of the behavioral characteristics found among more traditional youth gangs.

The interrelation between alcohol, illicit drugs, and family violence comprise Dr. Miller's research focus. Analysis of data from a series of studies on family violence among a group of male parolees and their spouses suggest that alcohol abuse is a greater risk factor than is illicit drug use. Dr. Miller's studies suggest that alcohol and illicit drug problems experienced by parolees related directly to the level of violence experienced by their spouses. "For those parolees who reported no drug problems, alcohol problems increased the level of violence. However, when the parolee had drug problems, alcohol problems did not increase the level of violence." Additional findings indicate that alcohol use rather than drug use was more likely related to child abuse.

Drs. Sterk and Elifson focus on the relation between male and female prostitution, drug use, and violence. Violence and drug use are shown to be intrinsic to the world of prostitution. Key findings from their work in Atlanta and New York are that males tend to work as prostitutes prior to initiating drug use, while females are more often drug users first and later resort to prostitution, often in direct exchange for drugs or for money to buy drugs. The research shows that the dynamics of the street scene have been dramatically affected by the emergence of crack cocaine. The world of street prostitution, always dangerous and unpredictable, has become even more so.

The chapter by Drs. Teplin and Abram presents findings on interrelations between mental illness, drug use, and violent crime among a cohort of male jail detainees in Chicago, IL. Individuals assessed as having antisocial personality disorders, with or without drug-use problems, were found to be more likely to be involved in violent crimes than those who had a drug or alcohol problem but did not have antisocial personality disorders. The authors point out that persons having drug-use problems are not necessarily more likely to commit violent acts than other offenders. Rather, it is the individual with antisocial personality problems, regardless of his drug problem, who is more prone to violence.

The accuracy of information collected by police on drug-related violent crime is addressed in detail by Dr. Ryan. He presents findings from a project that sought to: (1) develop procedures for collecting valid and reliable data about apparent motives in drug-related homicides (psychopharmacologic, economic compulsive, and systemic) in New York City and (2) integrate these reporting and analytic procedures into protocols for homicide investigations by New York City police. The results suggest that experimental implementation of the procedures in a joint police–researcher effort improved the quality of data collected on drug-related homicides and permitted analyses of drug–crime links that would otherwise not have been feasible.

Dr. Collins expands upon Goldstein's tripartite conceptual framework on drugs and violence by addressing other risk factors that may be indirectly or directly implicated in their epidemiology. Such factors as early childhood injuries, abuse, or neglect; socialization experiences; lack of economic opportunity; community disorganization; and physical reactions to specific types of drugs are cited as important adjuncts to Goldstein's tripartite conceptual framework. Dr. Collins suggests that the integration of these factors into Goldstein's model would enhance its power to explain and to predict phenomena associated with drugs and violence.

The chapters in this monograph represent a diversity of disciplines and research areas concerned with the causes, correlates, and consequences of drugs and violence. Yet, despite the breadth of information presented here, many unknowns remain. It is hoped that, by bringing together some of the issues associated with drugs and violence and the consequences they have on our society, this monograph will inform and inspire others to contribute to the epidemiologic knowledge base. More important perhaps, it will lead to the formation of educational, social, judicial, and medical strategies to reduce and prevent drug abuse and violence. One point remains very clear: the problems of drugs and violence are complex and seem to be intensifying, underscoring the urgency for effective public health, legal, and social interventions.

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Violence as Regulation and Social Control in the Distribution of Crack

Jeffrey Fagan and Ko-lin Chin

INTRODUCTION

After nearly a century of research on the relation between substance use and violence, drug use and trafficking have only recently been examined separately as etiological factors in violence and aggression. Violence associated with selling illicit substances has been evident since the Opium Wars in China and illegal whiskey importation into the American colonies (Musto 1989). In this century, illicit distribution of alcohol during the Prohibition Era led to widespread violence as criminal organizations competed for market share and territory (Zahn 1989). Violence intrinsic to drug distribution has been associated with marijuana production and selling (Adler 1985), heroin selling (Ianni 1974; Goldstein et al. 1984; Johnson et al. 1985; McBride 1981), and, more recently, cocaine and crack selling (Goldstein et al. 1987; Goldstein et al., in press; Johnson et al., in press; Williams 1989; Adler 1985; Murphy et al., unpublished manuscript).[1]

Recognition of the etiological relevance of drug trafficking to violence has resulted in more careful formulation of theories of the drug–violence relationship. Specifically, examination of homicides and other violent behaviors that involve drugs suggests separate explanatory frameworks for violence that occurs following intoxication, violence that occurs in the "service" of substance use, and violence that occurs during the course of drug trafficking (Goldstein 1985; Goldstein 1989). In the context of drug selling, further distinctions are evident between violence associated with wholesale distribution and violence in street-level transactions (Goldstein 1989).

There are several influences on violence that occurs in the context of street-level (seller–user) drug distribution. Violence may be used to enforce organizational discipline or resolve business disputes. Disputes over drugs and drug paraphernalia are commonplace among users and sellers. Territorial disputes are commonplace among drug sellers. Street-level sellers may skim profits from mid-level suppliers or crew bosses. In the absence of

legal recourse for illegal activities, such disputes are likely to be settled either by economic reprisal or by violence. Violence in drug dealing can be viewed as an extension of behaviors that are associated with efficiency and success in legitimate businesses (Black 1983).

The social *milieu* of drug-selling and drug-buying areas also is conducive to robbery of sellers and users for either cash or drugs. The spurious connection of drug use and crime suggests that drug selling will be concentrated in social areas with concentrations of the social structural features of violent crime and victimization. The reciprocal nature of the drug business and violence may influence the decision to participate in drug selling—individuals averse to violence may avoid street-level drug transactions, leaving only those willing to engage in violent behaviors as participants. Self-selection of violent individuals for participation in the drug business also may increase the likelihood of violence during drug transactions. For example, Fagan (1989) found that the drug selling–violence relationship among youth gangs was strongest for gangs most frequently involved in all types of violence.

This chapter examines violence and aggression among crack and other illicit drug sellers in New York City. Few studies have addressed the origins of violence in drug selling, specifically whether such violence reflects generalized violence or violent behaviors contingent on drug selling. Aggression in crack selling appears to be commonplace and severe (Goldstein et al., unpublished manuscript; Goldstein 1989; Johnson et al. 1990; *New York Times* 1989b) and is the focus of this study. Aggression evident in nondrug criminality is compared for crack sellers and other seller types. If violence in drug selling is a distinct behavior that reflects the contingencies of the unregulated marketplace, participation of sellers in nondrug violence will be less evident. However, if violence in drug selling involves processes of self-selection of generally violent individuals, their participation in nondrug violent crimes will be extensive. This interpretation would further suggest that systemic violence in drug selling is spuriously related to other etiological factors in violence and crime commission, rather than a function of unique social processes of drug selling.

The Emergence of Crack and Crack Markets

The appearance of crack in New York City in 1985 has been widely associated with increased violence in illicit drug markets (*New York Times* 1989a; Fagan and Chin, in press). Crack was introduced in New York shortly after the use and sale of powdered cocaine had reached its highest level nationwide in 1982 (Zimmer 1987). Most cocaine users had been aware of the intensified high from smoking freebase cocaine (Siegel 1982; Siegel 1987). However, sufficient quantities of cocaine for "basing" had been beyond the economic means of most drug users. An apparent reduction in the import price of cocaine in the mid-1980s made the raw material for smokable

cocaine economically accessible to all users. Moreover, compared to the manufacture of freebase cocaine, the crack production process was cheaper and more efficient. Crack was produced by heating cocaine with household substances, e.g., baking soda, rather than with the volatile and expensive chemicals, e.g., ether, used to transform cocaine hydrochloride (HCl) (the powder) into its base form.

Crack was marketed at a low unit cost in a rock or pebble form that was easily concealed and ingested. Its crystalline appearance conveyed an image of purity. The ingenious production and marketing strategy for crack gave it the appearance of a cheaper (albeit shorter) "high" from a purer form of cocaine. Following closely the growth in popularity of cocaine HCl and encouraged by the well-known advantages of smoking cocaine, cocaine users were quick to accept and popularize its new smokable form. As with the more expensive freebase form, compulsive use often developed following initiation into cocaine smoking (Siegel 1982; Siegel 1987; Spitz and Rosecan 1987; Washton and Gold 1987; Waldorf et al. 1990). More than 60 percent of cocaine users admitted for treatment in New York State in 1986 reported smoking crack as the primary method of cocaine use (Frank et al. 1987).

At first, crack was mass marketed in inner-city neighborhoods in or near cocaine importation points such as Miami, Los Angeles, and New York (Inciardi 1987), and it spread later to other cities (*Newsweek* 1986). Ethnographic (Hopkins 1989; Bourgois 1989), government (Frank et al. 1987; Mieczkowski, in press), and media reports (*New York Times* 1989a; *Newsweek* 1986) revealed that crack often was sold in centralized locations (crack houses) where buyers had access to crack limited only by their funds. Reports from users in treatment (Frank et al. 1987), the popular press (*New York Times* 1989b), and criminal justice agencies (Belenko et al., in press) also confirmed that crack was widely available throughout New York City.

Within 2 years, crack use and trafficking were widespread and highly visible throughout New York City, especially in its most socially and economically deprived neighborhoods (Hopkins 1989; Johnson et al., in press; *New York Times* 1989b; *New York Times* 1989c). For drug sellers, crack production was efficient, and its popularity made it extremely profitable. In short, crack was an excellent investment.

Crack Selling and Aggression: Victimization or Social Control?

Crack appeared in inner-city neighborhoods that had experienced profound social and economic deterioration in the decade preceding its appearance (Wacquant and Wilson 1989). The 1970s was a decade marked by labor surpluses in inner cities, created by the relocation of jobs to "satellite cities" in surrounding suburbs. Citing data from the U.S. Department of

Commerce, Kasarda (1989) shows that between 1970 and 1980, the number of blue-collar and clerical jobs in New York declined by over 350,000 but increased by over 75,000 in the surrounding suburbs. Technical and managerial jobs in the city increased by over 250,000 during this time and by over 400,000 in the suburbs.

Traditionally, African-Americans have relied heavily on blue-collar jobs in manufacturing for economic sustenance and social mobility (Farley and Allen 1987). Thus, the economic restructuring of American inner cities resulted in large-scale exclusion of their minority residents from constricting labor markets that also were transforming from manufacturing to services and shifting geographically from the inner city to the surrounding suburbs (Hochschild 1989). Similar processes, compounded by language and other cultural barriers, created severe economic dislocations for Puerto Ricans, in turn creating conditions of severe impoverishment (Farley 1987; Tienda 1989b; Kasarda 1988).[2]

Accordingly, the potential for high profits from selling crack attracted young initiates into drug dealing in social areas in which legitimate economic activity had decreased. For many young inner-city residents in this decade, the informal economy offered the most lucrative income opportunities (Sassen-Koob 1989). Involvement in the high-profit informal crack market offered economic opportunities to replace formal opportunities lost as capital flowed out of inner-city neighborhoods in the decades preceding its emergence.

Prior to crack, drug-related crimes generally were attributed to heroin use, and there was little overlap between users and sellers. Stable organized crime groups controlled heroin distribution, while drug-motivated crimes were usually attributed to heroin users, whose crimes served their drug use (Ball et al. 1983; Johnson et al. 1985; Johnson et al. 1990). As cocaine use increased both nationally and in inner cities from 1975 to 1982 (Kozel and Adams 1985; Siegel 1985), cocaine selling in New York City became more prevalent among drug sellers than was heroin selling (Zimmer 1987). The co-incidence of cocaine and other drug use and selling also rose during this period, as drug distribution essentially became a decentralized activity with cocaine HCl's increased availability of and decreased price (Zimmer 1987; Williams 1989).

The proliferation of cocaine distribution activities in this era seemed to have two effects. First, opportunities for drug distribution by new organizations apparently increased, creating economic incentives for individuals in inner cities to participate in the informal drug economy. New York Police Department (NYPD) officials characterized the crack "industry" as "capitalism gone mad" (*New York Times* 1989b), with no legal, economic, or informal social controls (Adler 1985; Murphy et al., unpublished manuscript). Second, the social processes of drug distribution seemed to change, as

inner-city neighborhoods in New York declined economically, and new opportunities were created for users to participate in low-level selling activities. The institutionalization of drug selling among inner-city residents in this era naturally extended to crack (Johnson et al., in press; *New York Times* 1989c; *New York Times* 1989e). Drug selling increased during a time when social and economic changes weakened formal and informal social controls against violence at the neighborhood level.

Thus, crack distribution systems developed in a social context in which poverty and social disorganization were intensifying (Massey and Eggers 1990; Tienda 1989a), social institutions and economic activities that traditionally provided social controls against violence were weakening (Sampson 1986; Sampson 1987), there was an absence of established drug-dealing organizations and territories for this product (Williams 1989; Johnson et al., in press), and a high demand existed for a product that for many initiates quickly led to compulsive use.

Violence associated with drug dealing increased at the same time that crack was introduced in the drug market. Hamid (1990) showed how the political economy of drug selling changed over a 25-year period in Caribbean neighborhoods in Brooklyn, as drug trafficking evolved from the peaceful trade of marijuana to normative violence in crack markets. Goldstein et al. (1987; Goldstein et al. 1989) also illustrated the increase in drug-related violence associated with decentralized cocaine distribution systems. Crack's appeal as a powerful and addictive drug, together with extraordinary profits from street sales, may have intensified drug–violence links that were more tenuous and contingent before the appearance of crack.

Accordingly, the appearance of crack coincided with the transformation of drug-related violence from the older patterns of economic compulsive crimes (to obtain money for drugs) to protection of economic interests (from territorial incursions by other sellers or robberies for cash or drugs) and regulation of emerging businesses (enforcement of discipline among employees). Disputes between nascent drug-dealing organizations led to reported increases in systemic violence during the competition for control of neighborhood markets (*New York Times* 1989b; Williams 1989; Hamid 1990; Bourgois 1989). Increases since 1987 in hospital emergency room cases involving gunshot wounds, fractures, and other wounds indicative of intentional injury have been attributed to violence surrounding crack, rather than increases in the base rate of violence (*New York Times* 1989a).

The Present Study

The symbolic meaning of criminal conduct may be interpreted simply as a violation of a legal or moral prohibition or as a form of self-help and social control (Black 1983)[3]. Viewed in relation to the illicit nature of drug distribution, violence in crack dealing would be expected to occur as a form of

economic regulation and organizational maintenance. Hobbesian theory would suggest that, in conditions in which law and governmental social control are least developed, violence would be more evident as a form of social control. In the volatile and illicit crack market, this view implies that violence should be limited to those organizational or economic situations that require regulation. Since the activity is illicit, violence also is necessary as a form of self-help; drug sellers cannot legitimately bring legal grievances for crimes within the selling context. If crime is social control and economic regulation, then predatory or expressive crimes should be less evident.

However, crack distribution systems developed under conditions that were conducive to criminal conduct, as well as to the specific forms of violence more commonly associated with drug distribution. The rapid growth of crack use and emergence of crack-selling organizations occurred in socially disorganized areas with few legitimate economic opportunities and strained informal social controls, conditions associated with increased rates of predatory and expressive violent crimes (Sampson 1986; Sampson 1987). Violence thus regarded sociologically is less likely to be confined to contingencies that either are moralistic or instrumental and would be evident both within and outside the context of drug selling.

To adequately explain violence within drug distribution, comparisons are necessary of violence both within the social and economic context of drug selling and violence that occurs in other situations. If violence within drug selling is a form of social control and economic regulation, violence not associated with drug selling should be less frequent. However, if violence within drug-selling contexts simply is a manifestation of generalized criminal proclivities, there should be few distinctions between violence in the service of drug dealing and violence outside the dealing context.

To test these competing explanations of violence in drug distribution, violence within and apart from the context of drug dealing is compared for individuals involved in various types of drug distribution activities in New York City neighborhoods where crack use and sales have grown rapidly in the past few years. A theory of violence as social control predicts limited involvement of drug sellers in violence outside the context of selling. A generalized theory of crime predicts no distinctions between violence in the context of dealing and other varieties of crime.

METHODS

Samples

Samples were constructed from two northern Manhattan neighborhoods with high concentrations of crack use and selling: Washington Heights and West Harlem.[4] Samples included individuals from the study neighborhoods who had been arrested for drug possession or sales, residents of the study

neighborhoods who matched the arrested populations but who had avoided legal or social intervention for drug use or selling, and participants in residential drug treatment programs. Within each group, subjects included crack users or sellers, cocaine HCl users or sellers who were not involved with crack, heroin users or sellers, and polydrug (primarily marijuana) users.

Samples were recruited through chain referral or "snowball" sampling procedures (Biernacki and Waldorf 1981). Since the research was part of a larger study of crack, crack users and sellers were oversampled. Crack arrestees were recruited from drug arrestees who were awaiting initial court appearances in the Manhattan central booking facility. They were identified from special charge flags recorded by arresting officers on booking slips. The arrest flags have been used by the NYPD since 1986 to identify crack offenses, since charge categories do not distinguish various types of controlled substances. Residential neighborhood was determined from the addresses and corresponding zip codes provided by arrestees to the interviewers.

Referrals for interview were made by pretrial services interviewers during routine interviews to determine eligibility for release on their own recognizance. Arrestees released at arraignment were interviewed shortly after release. (Those arrestees detained were interviewed in the detention facility.) Arrestees who indicated their willingness to participate in a research study were given cards that told them where and how to arrange for an interview. Their names also were given to the interview team who, in some cases, sought them out.

Other subjects also were recruited through chain referral procedures: noncrack drug arrestees; nonarrested neighborhood samples who were matched to the arrested samples on age, gender, and ethnicity; and participants in two residential treatment programs in Manhattan. Several types of chain referral methods were used. Arrestees were asked to nominate potential respondents who were "like them in many ways but who have avoided arrest." Interviewers then sought out the nominees, or the nominees were referred to the field office by friends. Chains also were developed among drug users and sellers who were known to the interviewers. Interviewers were members of a street research unit that maintained ethnographic contact and did reconnaissance on drug scenes throughout the New York metropolitan area.

Residential treatment clients were recruited from their programs based on nominations of crack and other drug users by administrators and clinical staff. Treatment residents who had been in the program for at least 1 month and had met screening criteria for each drug-user type were asked to participate in treatment.

A brief (10 item) screening interview was used to classify respondents and validate their reports. Respondents were classified by their primary drug involvement if they had used (or sold) that drug on more than 50 occasions in their lifetime, and if they had not used (or sold) another substance more than that amount. Multiple drug users were classified according to the most frequent drug used or sold in the past year. Interviews were conducted with 559 respondents over a 1-year period from June 1988 to May 1989. Sample characteristics are shown in table 1.

Crack users or sellers (n=350) comprised 62 percent of the sample. Cocaine and heroin users comprised 15 and 14 percent, respectively; the remainder were polydrug users. One in four (23.6 percent) had been arrested and released, two in three respondents (67.1 percent) were neighborhood participants who had avoided arrest, and 1 in 11 (9.3 percent) were in treatment. Crack respondents were younger than the others, and heroin users the oldest. Two in three were males. Crack users more often were African-Americans, and cocaine HCl users most often were either of Puerto Rican or other Hispanic ethnicity. Slightly more than half were high school graduates, and about one in four had attended college.

Procedures

Interviews were conducted in a variety of settings that reflected criteria on appropriate interviewing conditions. The criteria required that interviews be confidential and anonymous—they could not be overheard by anyone else, and the identity of the respondent must be unknown to anyone in the immediate setting. The criteria also required that the conditions be sufficiently comfortable to sustain a conversation lasting as long as 2 hours. Finding locations where smoking was permitted, for example, posed some difficulty. Since urine specimens were requested as a validation measure, a locale with a bathroom was needed where the procedure could be verified. A final consideration was the safety of the interviewers, as they carried cash for interviewee stipends.

Interviews lasted from 1 to 2 hours, with a short break after the first hour. Interview stipends of $25 were provided, plus $5 for the urine specimen and smaller fees for referrals of potential interviewees and location information for possible followup. Respondents also were given two subway tokens and a pack of cigarettes. Treatment respondents were not given the stipend; it was donated to the residential treatment program. They also were not asked for urine specimens, since they had been residing in treatment programs for 1 month or longer.

Interview items were read aloud. Cards with the response sets were shown to respondents and the choices read aloud so that literacy problems were minimized. The interviews were conducted in both English and Spanish.

TABLE 1. *Sample characteristics*

Background Factors	Primary Drug Used or Sold: Crack n=350 (62%)	Cocaine n=85 (15%)	Heroin n=76 (14%)	Polydrug n=48 (9%)	Significance p (chi square)
Age at Interview					.003
18 or Less	9.0	6.0	6.7	16.7	
19–24	25.9	22.6	13.3	33.3	
25–30	28.5	23.8	20.0	27.1	
31 or Older	36.6	47.6	60.0	22.9	
Age at Onset					.000
18 or Less	19.6	56.6	50.7	72.9	
19–24	24.0	28.9	35.6	20.8	
25–30	28.9	10.8	12.3	4.2	
31 or Older	27.5	3.6	1.4	2.1	
Sex					.158
Male	65.7	68.2	73.7	54.2	
Female	34.3	31.8	26.3	45.8	
Race					.000
Afro-American	69.6	38.8	48.7	70.8	
Anglo	5.2	8.2	11.8	8.3	
Puerto Rican	8.0	27.1	7.9	8.3	
Other Hispanic	17.2	25.9	31.6	12.5	
Education					.004
Less than HS Graduate	49.7	38.8	40.5	21.7	
HS Graduate	34.9	37.6	37.8	60.9	
Some College	15.4	23.5	21.6	17.4	
Current Employment					.000
Working/Student	15.7	32.9	23.7	66.7	
Unemployed/Dropout	84.3	67.1	76.3	33.3	
Legal/Social Status					.000
Neighborhood	58.9	77.6	76.3	93.8	
Arrested and Released	28.3	17.6	19.7	6.3	
In Treatment	12.9	4.7	3.9	0.0	
Marital Status					.150
Married/Common Law	16.9	24.7	26.3	18.8	
Single	65.3	56.5	53.9	72.9	
Widow/Separated	17.8	18.8	19.7	8.3	
Live With Children					.008
No Children	40.5	28.6	33.3	54.2	
Live With Child	16.1	21.4	13.3	25.0	
Live Apart From Child	43.4	50.0	53.3	20.8	

Variables

Interview protocols included four domains of information: initiation into substance use or selling; lifetime and annual involvement with both substances and nondrug crimes; the social processes of substance use or selling; and income sources and expenditures from both legitimate and illegal activities. A calendar was used to record time spent in treatment or detoxification programs, jails or prisons, or other institutions. For initiation, respondents were asked to describe processes of initiation into their primary drug: how, where, and with whom did they initially use (or sell) the substance, how much money did they spend, and the time until the next use and regular use (if any). Their expectations and reactions to the substance were recorded through multiple response items.

Criminal career parameters were recorded through self-reports of lifetime estimates and annual frequencies of drug use, selling, and nondrug crimes from 1984 to the present. Specific estimates were recorded for several types of drugs used or sold, as well as a list of 20 nondrug crimes. Items were worded in common language, e.g., "beat someone so badly they needed to see a doctor." A categorical scale was used to record frequencies of specific behaviors. This was chosen in lieu of self-reports of actual numbers of crimes, to minimize distortion from the skewed distribution of responses for the small percentage of high-rate users or offenders. The response set represented an exponential scale frequency, with 9 categories ranging from "1 or 2 times" to "more than 10,000."

The social processes of substance use and selling included several types of information. Respondents were asked whether they had sold drugs as part of an organization and to describe their organization using dimensions developed by Fagan (in press) in studies of drug selling among youth gangs. Items asked for reports of their participation in specific roles in drug selling, roles that were evident in their selling organization, and social processes that existed within their group. For example, respondents were asked if their group had specific prohibitions against drug use or sanctions for rule violations. "Systemic violence" (Goldstein 1985; Goldstein 1989) associated with drug dealing was operationally defined through eight items with specific types of violence. Respondents were asked whether they had experienced each of these violent events "regularly" in the course of their selling activity.

The economic lives of respondents were described through questions on income and expenditures. Monthly dollar amounts were reported using a categorical scale of dollar ranges. This option was chosen over actual dollar reports to minimize distortion of dollar estimates and possible recall problems of long-term substance users. Dollar estimates were recorded for both legitimate and illegitimate sources of income and for expenditures both for living costs and for drugs.

RESULTS

Patterns of Drug Selling

The low unit cost of crack, the absence of established crack-selling organizations at the time of its introduction in 1985, and the relative absence of legitimate economic opportunities in the inner-city neighborhoods where crack was marketed most heavily, made it attractive for selling both for experienced drug sellers and newcomers. New drug-selling organizations specializing in crack developed in response to the economic opportunities it presented, while more established sellers added crack to an already diversified product line (Johnson et al. 1990; *New York Times* 1989d). Accordingly, diverse patterns of drug selling were anticipated. Table 2 shows involvement in drug selling of four drugs over the course of respondents' criminal and drug-use careers.

TABLE 2. *Lifetime involvement in drug selling by primary drug involvement**

Type of Drug Sold ("Regular" Sellers)	Primary Drug Used or Sold				Significance p (chi square)
	Crack n=350	Cocaine HCl n=85	Heroin n=76	Polydrug n=48	
Crack	26.1	9.4	3.9	8.3	.000
Cocaine HCl	29.8	35.7	27.6	2.1	.000
Heroin	22.0	17.6	38.2	6.3	.000
Marijuana	29.5	17.9	22.4	14.6	.022
Any Drug	46.3	43.5	46.1	22.9	.002

*Percentages exceed 100 owing to selling multiple drugs.

For each user-and-seller sample, table 2 shows the percentage that sold each of four different substances more than 50 times in their lifetime. The percentages of crack, cocaine HCl, and heroin users involved in drug selling were similar, but the types of drugs they sold differed according to the type of drug used. More than half (54.6 percent) sold at least one drug. Among crack users, about one in four (26.1 percent) sold crack, but similar percentages were involved in the sale of other drugs. For other subsamples, the highest percentages of sellers tended to sell the primary drug used. Cocaine HCl users rarely were involved in crack sales (fewer than 10 percent sold crack), while over one-third (35.7 percent) sold cocaine HCl. Heroin users most often sold heroin (38.2 percent). They rarely were involved in crack sales, although more than one in four (27.6 percent) sold cocaine HCl. Polydrug users were less often involved in selling drugs than the other drug-user samples.

The diverse patterns of drug selling from table 2 illustrate that many sellers were involved in multiple drug selling. Accordingly, cluster analytic methods (Aldenfelder and Blashfield 1984) were used to develop a typology of drug selling to determine if distinct patterns of selling activity could be identified that would more accurately and sensitively describe drug-selling behaviors. Only those respondents reporting at least 50 selling events in their lifetimes (n=300) were included in the typology.

Typology development used the lifetime frequencies of drug selling as the classification dimension. The categorical frequency scale was used, with values representing an exponential frequency scale, as follows: 0 (no participation), 1 (1 or 2 times), 2 (3 to 9 times), 3 (10 to 49 times), 4 (50 to 99 times), 5 (100 to 499 times), 6 (500 to 999 times), 7 (1,000 to 10,000 times), and 8 (more than 10,000 times). An iterative partitioning method was used to identify patterns of drug selling. Squared Euclidean distance (Ward's centroid method) was used as the similarity measure. A k-means pass was used as the method to assign cases to clusters. The result was a nonhierarchical cluster analytic solution that optimized the minimum variance within clusters.[5]

The six-cluster solution was chosen based on the shifts in cluster membership in successive iterations, and on its conceptual integrity (face validity). The selling types reflect differences between sellers in the joint distributions of selling of each of four types of drugs: heroin, crack, cocaine HCl, and marijuana. Validation procedures relied on interpretation plus the face validity and internal consistency of the aggregate behavioral characteristics of each group and the total sample classification. For example, one type specialized in heroin sales; the mean lifetime frequency of heroin sales was highest for this group and significantly lower for the other types. The results are shown in table 3 and figure 1.

TABLE 3. *Lifetime frequency of drug selling by type of drug and seller type*

		Type of Drug Sold			
Seller Type	n	Crack	Cocaine HCl	Heroin	Marijuana
1. Marijuana	(49)	.27	1.84	.49	4.82
2. Heroin	(33)	.15	1.61	5.18	.12
3. Cocaine, Heroin, and Marijuana	(45)	.53	5.56	5.93	4.96
4. Low-Level Crack and Cocaine	(93)	2.48	1.75	.34	.58
5. Crack, Cocaine, and Marijuana	(54)	4.85	4.54	2.52	5.22
6. Crack, Cocaine, and Heroin	(26)	4.85	5.19	5.27	1.19
ANOVA: F		99.8	44.3	151.0	156.5
p(f)		.000	.000	.000	.000

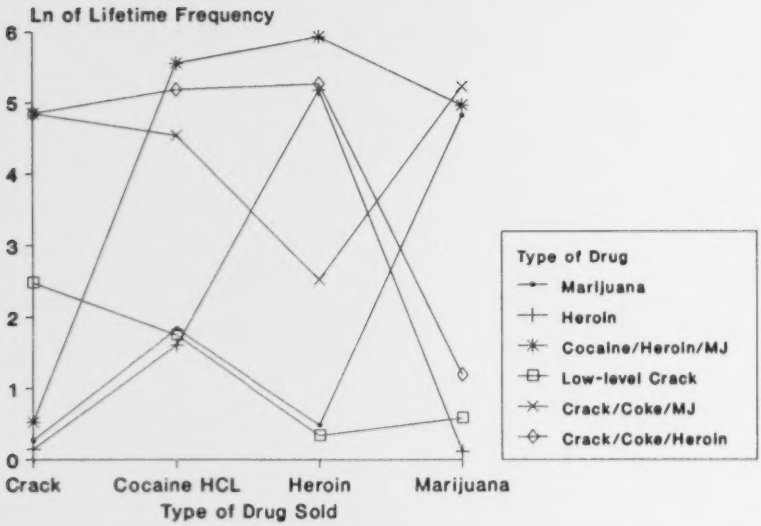

FIGURE 1. *Typology of drug selling*

Table 3 and figure 1 show the distribution of cases by seller types, and the mean frequency of lifetime selling by type of drug for each seller type. Analysis of variance (ANOVA) tests for all index scores were significant (p=.000), a confirmation of the internal validity of the classification results.

Marijuana Sellers (Type 1) appropriately have the highest mean selling frequency for marijuana. They have relatively low mean scores for crack and heroin and moderately high scores for cocaine HCl. Heroin Sellers (Type 2) have the highest mean selling frequency for heroin, moderate mean frequency scores for cocaine HCl, and low scores for other drugs.

The other types reflect patterns of multiple drug selling. Type 3 (Cocaine HCl, Heroin, and Marijuana) had low mean frequency scores for crack, but high scores for the other drugs. Type 4 (Low-Level Crack Sellers) had moderate frequency scores for crack and cocaine HCl, but low scores for other drugs. Type 5 (Crack, Cocaine, and Marijuana) had high lifetime frequency scores for selling crack, cocaine HCl, and marijuana. They also had moderate scores for heroin and could alternately be classified as sellers of all drugs. Type 6 (Crack, Cocaine, and Heroin) had high scores for all drugs other than marijuana.

The typology of six seller types recognizes distinct selling patterns that capture the complexity of drug-selling behaviors. In turn, it provides a unique basis for comparison of the social organization of drug-selling types and a basis for interpretation of their involvement in specific varieties of violent behaviors.

The Social Organization of Drug Selling

Prior studies of the social organization of drug selling (Adler 1985; Williams 1989; Fagan, in press; Johnson et al. 1990; Fields 1985; Cooper 1987; Mieczkowski 1986; Mieczkowski, this volume; *New York Times* 1989d) suggest that selling activities vary extensively according to participation in a group, as well as to the social processes, organizational structure, and internal cohesion of the group. Few of these studies have compared social organization among various seller types or drugs sold, nor have they related social organization to specific behaviors of sellers. Tables 4 and 5 compare two aspects of the business structure and social processes among sellers and within selling groups, as described by members of different seller types.

Participation in a variety of selling roles is shown in table 4. Johnson et al. (1985) found distinct patterns of drug use and nondrug criminality among participants in the heroin trade depending on their specific role in drug selling. In this study, respondents were asked whether they had performed each of several types of roles, from street-level transactions to "wholesalers" and suppliers of equipment ("sell and rent works").[6]

Table 4 suggests that differences are evident in participation in each of the seven selling roles by seller type. These differences suggest that differences may exist in the organizational structures of drug selling according to the type of drug sold. Type 4 (Low-Level Crack and Cocaine) sellers least often reported involvement in formal roles and also least often reported participation in selling transactions. Similar results were apparent for Types 1 and 2, suggesting that sellers of marijuana and heroin were less often involved in drug-selling groups. Respondents in Types 3, 5, and 6 (high-rate multiple drug selling) most often reported participation in formal drug-selling roles. These findings suggest that cocaine HCl and crack selling are more highly organized activities, with sellers more often participating in a broader range of roles with increasing responsibility. However, the sampling strategy may have influenced these results.

Table 5 examines respondents' reports of their participation in drug-selling organizations or groups and examines whether their group contains each of several specific types of social organization or processes. Participants were asked if they had participated in a "group or gang" that sold drugs.[7] Those who indicated that they were part of a group then were asked if their group contained any of six specific features. An index of group organization was

TABLE 4. *Selling roles by type of seller (percentage of dealers in each role)**

Role in Drug Selling	Type of Seller: Marijuana n=49	Heroin n=33	Cocaine, Heroin, and Marijuana n=45	Low Crack and Cocaine n=93	Crack, Cocaine, and Marijuana n=54	Crack, Cocaine, and Heroin n=26	Significance p (chi square)
Selling to Customer	89.8	87.9	97.8	78.5	100	96.2	.000
Middleman	53.1	51.5	77.8	54.8	70.4	61.5	.045
Lookout	55.1	60.6	73.3	49.5	72.2	76.9	.013
Cut, Package, or Cook	77.6	57.6	91.1	53.8	81.5	92.3	.000
Lieutenant	22.4	30.3	53.3	25.8	46.3	61.5	.000
Wholesaler	55.1	33.3	68.9	30.1	59.3	61.5	.000
Sell and Rent Works	24.5	24.2	48.9	37.6	53.7	38.5	.014

*Percentages exceed 100 due to multiple selling roles.

TABLE 5. *Social organization of selling groups by type of seller (reports by sellers about their group)**

Organizational Feature	Type of Seller						Significance p (chi square)
	Marijuana n=49	Heroin n=33	Cocaine, Heroin, and Marijuana n=45	Low Crack and Cocaine n=93	Crack, Cocaine, and Marijuana n=54	Crack, Cocaine, and Heroin n=26	
A Specific Name	89.8	87.9	97.8	78.5	100	96.2	.000
Leaders and Supervisors	53.1	51.5	77.8	54.8	70.4	61.5	.045
Rules and Sanctions	55.1	60.6	73.3	49.5	72.2	76.9	.013
Rules Against Use While Dealing	77.6	57.6	91.1	53.8	81.5	92.3	.000
A Specific Territory	22.4	30.3	53.3	25.8	46.3	61.5	.000
Kids Under 16 Selling	55.1	33.3	68.9	30.1	59.3	61.5	.000
Percentage in Group	10.2	30.3	24.4	33.3	59.3	50.0	
Group Organization Index**	.35	.91	1.04	1.29	2.54	2.12	

*Percentage of group members reporting each feature.
**Mean for all sellers, including sellers not in groups.

constructed by summing the positive responses to each of the six features. Table 5 shows that marijuana sellers (Type 1) least often reported being part of a selling group (10.2 percent). Between 24 and 33 percent of members of Types 2, 3, and 4 reported being in a group, while over half of Types 5 and 6 reported being in a drug-selling group.

The types differed significantly on cross-tabulations for each dimension. Among those reporting group participation, most said that their group had a specific name, although Type 4 respondents had a lower rate. The findings for the other dimensions reflected patterns similar to those in table 4. Participants in Types 1, 2, and 4 least often reported the presence of the several features of group. Inclusively, their reports suggested that they saw their groups as being less formally organized and having fewer unifying social processes.

Respondents in Types 3, 5, and 6 who reported being in selling groups most often reported the presence of formal structures or processes. Similar patterns for these types were found for role differentiation in table 4. More than 80 percent reported prohibitions against using drugs while selling, compared to about half in Types 2 and 4. They more often reported having specific territory, leaders and supervisors, and formal rules and sanctions. They also more often reported using juveniles (less than 16 years of age) in drug selling.

The index of group organization further showed these distinctions: respondents in Types 5 and 6 reported the highest scores for group organization, and respondents in Types 1, 2, and 3 had the lowest (p=.000). Significantly, these two types are most often involved in selling crack. Type 3 sellers, despite their involvement in selling cocaine HCl and heroin, had lower indices of group organization. The results suggest that crack selling is a more formally organized activity: it more often occurs within selling groups, and crack-selling groups more often have a formal, hierarchical social organization.

Violence in Drug Selling

Although there is overwhelming evidence of an association between drugs and violence, the violence that characterizes drug use or selling actually is a heterogeneous set of behaviors. The empirical evidence of causal directions between drug involvement and violence consistently has yielded contradictory results (Watters et al. 1985). Thus, the drug–violence connection for now may be best understood as a probabilistic function, with uncertain causal mechanisms or temporal order (Anglin 1984).

Goldstein (1985; Goldstein 1989) suggests that different theories may be needed to account for different drug–crime relationships. In his tripartite framework, he distinguishes "pharmacological" violence linked to

psychoactive effects of drug ingestion from "economic compulsive" violence in which drug users engage in crimes to support the costs of drug use. "Systemic" violence is the third type of drug–crime relationship. It is violence that is intrinsic to buying and selling any illicit substance:

> . . . traditionally aggressive patterns of interaction within the system of drug distribution and use . . . disputes over territory between rival drug dealers, assaults and homicides committed within dealing hierarchies as a means of enforcing normative codes, robberies of drug dealers and the usually violent retaliation by drug dealers or their bosses, elimination of informers, disputes over drugs and/or drug paraphernalia, punishment for selling phony or adulterated drugs, punishment for failing to pay for one's debts, and robbery violence related to the social ecology of [buying] areas. (Goldstein 1989, p. 30)

Systemic violence was expected to be greater in crack distribution than in other drug markets for two reasons. First, crack selling was concentrated in neighborhoods where social controls had been weakened by intensified social and economic dislocations in the decade preceding the emergence of crack. Second, the rapid development of new drug-selling groups following the introduction of crack brought with it competition. Accordingly, violence within new selling groups *internally* to maintain control and violence *externally* to maintain selling territory and integrity (product quality) was more likely to characterize the unstable crack markets than more established drug markets and distribution systems. Table 6 examines the percent of respondents within types reporting "regular" systemic violence. Items were constructed to reflect the dimensions of systemic violence defined above.

For each type of systemic violence, there were significant differences in the prevalence of regular violence. Most important, each type of systemic violence was reported most often by sellers in two of the three crack-seller types and least often by marijuana and heroin sellers. Type 4 (Low-Level Crack and Cocaine) sellers reported systemic violence less often than did other crack or cocaine sellers; their reports of systemic violence closely resemble the reports of heroin or marijuana sellers for nearly all items. Evidently, a wide range of violent acts is intrinsic to frequent crack or cocaine selling. For nearly all varieties of systemic violence, between 40 and 50 percent of the Type 5 and 6 respondents reported their regular occurrence.

Sellers who worked in groups were compared with those who sold outside any formal or informal structure for the level of systemic violence. Respondents were classified according to whether they reported that their selling activity was alone or in a group (see table 5). A scale of systemic violence was constructed by summing responses to the eight individual

TABLE 6. *Systemic violence by seller type (percentage reporting "regular" occurrence)*

Violence in Drug Selling	Type of Seller						Significance p (chi square)
	Marijuana n=49	Heroin n=33	Cocaine, Heroin, and Marijuana n=45	Low Crack and Cocaine n=93	Crack, Cocaine, and Marijuana n=54	Crack, Cocaine, and Heroin n=26	
Fights With Rival Dealers	10.2	9.1	20.9	20.4	40.7	38.5	.001
Assaults to Collect Debts	12.2	12.1	20.9	18.3	44.4	38.5	.000
Fights With Other Dealers Over Quality of Drugs	16.3	12.1	32.6	16.1	40.7	42.3	.001
Robbery of Other Drug Dealers	6.1	12.1	18.6	11.8	44.4	15.4	.000
Robbery of Drug Buyers	12.2	6.1	23.8	8.6	33.3	23.1	.001
Disputes Over Paraphernalia	22.4	30.3	23.3	28.0	50.0	34.6	.028
Victimization While Selling	12.2	18.2	20.9	26.9	50.0	46.2	.000
Fights With Buyers Over Quality of Drugs	4.1	21.2	23.3	12.9	42.6	30.8	.000

items. Table 7 reports the results of analysis of covariance (ANCOVA) routines testing differences in systemic violence scale scores for selling alone or in a group.[8] Covariates were introduced for the age of the respondent and self-reports of monthly income from drug selling in the past year.

TABLE 7. *Analysis of variance of systemic violence by seller type and group involvement*

Seller Type	Sell Alone n=180	Sell in Group n=120
Marijuana	.74	2.29
Heroin	.68	2.27
Cocaine, Heroin, Marijuana	.88	3.92
Low-Level Crack	.91	2.19
Crack, Cocaine, Marijuana	2.65	3.84
Crack, Cocaine, Heroin	1.45	3.60
All Sellers	1.03	3.08

NOTE: ANCOVA (Significance of F)
Main Effects: Type, p=.000; Group, p=.000; Type x Group, p=.355.
Covariates: Selling Income, p=.000; Age, p=.099.

Main effects were significant (p=.000) for both seller type and selling group status, and there were no significant interactions. Selling income was not a significant covariate, but age as a covariate approached significance (p=.099). For each seller type, systemic violence was far greater among sellers in groups. Among those who sold alone, crack and cocaine HCl sellers (Types 5 and 6) reported the highest violence scores, although Type 5 sellers had much higher violence scores. These differences were less evident for group selling. Cocaine HCl sellers (as part of multiple drug selling) had the highest systemic violence scores among sellers either alone or in groups, regardless of whether they sold crack concurrently. It is the frequency of selling *cocaine products*, not just selling its smokable form, that seems to best explain violence in drug selling.

Low-Level Crack and Cocaine Sellers (Type 4) have lower violence scores compared to other crack sellers, in groups or alone. This suggests that *frequent* crack selling also may be associated with systemic violence only if it occurs concurrently with cocaine HCl selling. Although the violence potential for selling crack alone is quite variable, frequent selling of any cocaine product in a group appears to be a particularly violent enterprise. This may reflect exposure during group dealing to individuals and situations for which

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violence is commonplace or a self-selection process that determines who becomes involved in drug-dealing groups. It also may reflect the importance of violence as a regulatory and management strategy within selling groups in which both internal discipline and maintenance of market share are required.

The relationship between participation in a selling group and systemic violence, shown in table 7, suggests that crack or cocaine HCl selling in groups involves greater involvement in systemic violence. Table 5 shows that the social organization of crack-selling groups is better developed than other groups. Accordingly, systemic violence is more evident both in group selling of cocaine products and in groups with stronger social organization. Compared to group or individual sellers of heroin or marijuana, the selling groups that have developed in the crack market appear to have a stronger social organization and are more likely to engage in a wider range of violent acts within the social and economic boundaries of drug transactions.

Drug Selling, Drug Use, and Nondrug Crimes

If systemic violence is part of a general pattern of intentional law violations, then violence that occurs outside the context of drug selling should be distributed similarly to violence within those contexts. However, if systemic violence is a form of social control and regulatory behavior, then the distribution of systemic violence should differ from the distribution of nondrug violent acts. Moreover, since crack-selling groups developed rapidly and often in the absence of an existing market structure, systemic violence was expected to be greater among crack sellers than others. The previous section confirmed this belief. If these differences for crack sellers were not evident in other forms of violence, then systemic violence among crack sellers might be interpreted as an economic behavior and a form of social control. If crack sellers also are more often involved in violence outside the selling context, however, then systemic violence and other violence might be interpreted as indicative of part of a generalized pattern of intensified criminal behaviors among people involved in crack.

Respondents were asked to indicate their lifetime involvement in each of 11 nondrug crimes, using a categorical response set for frequencies, using the previously described exponential scale (p. 19). ANOVA routines compared lifetime frequencies by seller type, controlling for group involvement in drug selling. Means for nonsellers are presented in the table, but were not included in the analyses. Age, group cohesion, and selling income were introduced as covariates.

Table 8 shows that significant effects (p=.05 or less) by seller type were obtained for 5 of the 11 crime categories: robbery of persons, breaking and entering, auto theft, weapons offenses, and selling stolen goods. Results approached significance (p=.07) for three other categories: robbery of

TABLE 8. *Analysis of variance of nondrug crimes by seller type and group selling**

Nondrug Crime	Selling Status	Type of Seller							Significance of F					
									Main Effects			Covariates		
		Nonsellers	Marijuana	Heroin	Cocaine, Heroin, and Marijuana	Low Crack and Cocaine	Crack, Cocaine, and Marijuana	Crack, Cocaine, and Heroin	Type	Group	Type x Group	Age	Cohesion	Income
Robbed Businesses	Alone	.30	.29	.64	1.25	.21	.59	.64	.066	.843	.979	.002	.002	.719
	Group		.71	.55	1.46	.64	1.08	1.00						
Robbed Persons	Alone	.50	.74	1.45	1.88	.52	1.88	.45	.002	.916	.122	.163	.038	.255
	Group		.57	.45	1.69	1.11	1.86	1.80						
Broken Into Homes To Steal	Alone	.29	.60	1.14	1.38	.32	.35	.09	.050	.447	.250	.005	.814	.164
	Group		.43	.27	1.15	.39	.59	.87						
Beat Someone Up Badly, Hurt Them	Alone	.12	.43	.41	.91	.39	.47	.55	.069	.318	.720	.219	.002	.072
	Group		.29	.27	1.23	.61	1.30	.67						
Fighting	Alone	.67	1.83	1.27	2.09	1.48	2.18	1.91	.337	.314	.880	.098	.118	.198
	Group		1.29	1.18	2.23	1.97	2.11	2.00						
Carried Weapons	Alone	.86	1.57	2.23	3.63	1.57	2.59	3.27	.003	.516	.984	.002	.005	.000
	Group		1.71	2.55	4.46	2.31	3.13	3.13						
Stolen a Car	Alone	.24	.50	.45	.72	.20	.76	.18	.028	.071	.770	.294	.260	.059
	Group		.14	.18	1.23	.14	.62	.27						
Shoplifted	Alone	1.27	1.79	2.41	2.75	1.32	1.71	1.09	.337	.271	.228	.015	.467	.647
	Group		2.14	1.18	1.69	1.69	2.11	1.53						
Stolen Money or Valuables	Alone	1.02	1.24	2.41	1.81	1.04	1.65	.64	.071	.800	.029	.188	.286	.692
	Group		1.14	.55	1.38	1.14	2.24	2.13						
Stolen Things Worth <$50	Alone	.81	1.14	1.55	1.53	.88	1.59	.82	.404	.857	.415	.086	.748	.477
	Group		1.29	.27	1.77	.81	1.51	1.60						
Sold Stolen Goods	Alone	.65	1.40	1.23	2.16	.86	1.35	1.09	.035	.524	.523	.012	.000	.015
	Group		1.14	1.64	2.38	1.17	2.65	1.93						

*Mean score for categorical index of lifetime frequency; nonsellers excluded from ANOVA significance tests.

businesses, aggravated assault, and grand theft. In nearly all of these offense categories, lifetime frequencies were lowest for nonsellers and Type 1 and 2 sellers (sellers of other than cocaine products). Lifetime criminality was significantly higher for Type 3, 5, and 6 sellers in nearly all the offense categories in which the F-value was significant. These seller types were sellers of multiple drugs, including cocaine products. The trends also suggest that differences between seller types are less evident for less serious offenses: fighting, shoplifting, and petty theft.

For nearly all offense categories and seller types, group sellers had greater lifetime involvement than individual sellers. Significant interactions were obtained only for grand theft: individual sellers in Types 1, 2, and 3 had higher lifetime involvement than group sellers, but the opposite trend was found in Types 4, 5, and 6. Inspection of the means for nonsellers shows that their involvement in nondrug crimes was substantially less than either individual or group sellers.

Covariate effects for age were significant for several crime categories: business robbery, breaking and entering, shoplifting, weapons offenses, and selling stolen goods. Age was not significant in crimes of physical aggression, nor in person robbery. Group organization was a significant covariate in business robbery, person robbery, assault, weapons offenses, and selling stolen goods. Selling income was a significant covariate only for weapons offenses and selling stolen goods.

The results clearly show that involvement in nondrug violent crimes is greater for sellers of cocaine products, especially for those groups with more well-articulated organizations. Unlike the evidence on systemic violence, however, there appear to be minimal differences between Types 5 and 6 (crack sellers) and the Type 3 noncrack cocaine sellers. This suggests that participation in multiple drug-selling groups, rather than simply crack-selling groups, is associated with involvement in a wide variety of crimes and, specifically, violence. The influence of group social organization on nondrug violence is consistent with its influence on systemic violence. Evidently, participation in a well-organized drug-selling group is strongly associated with involvement in violence in a variety of circumstances and contexts.

The effects of initiation into drug selling on specific forms of aggression also were compared by seller type, including nonsellers. Respondents were presented with a series of six items describing specific forms of aggression and one item about victimization from violence and asked whether their involvement had increased, decreased, or remained the same following initiation into crack use or selling. The percent of respondents reporting either increases or decreases is shown in table 9.

TABLE 9. *Self-reported changes in specific forms of violence by seller type after initiation into primary drug*

Specific Forms of Violence	Type of Seller (Percentage Reporting Change)							Significance p (chi square)
	Nonsellers	Marijuana	Heroin	Cocaine, Heroin, and Marijuana	Low Crack and Cocaine	Crack, Cocaine, and Marijuana	Crack, Cocaine, and Heroin	
Stabbings								.119
Involved Less	1.6	4.2	3.0	9.3	2.2	5.6	3.8	
Involved More	2.8	6.3	3.0	2.3	3.2	9.3	7.7	
Shootings								.000
Involved Less	0.4	2.0	6.1	11.6	4.3	11.1	11.5	
Involved More	0.8	2.0	0	4.7	4.3	7.4	3.8	
Assaults or Beatings								.000
Involved Less	2.4	10.4	12.1	11.6	5.4	22.2	7.7	
Involved More	4.7	8.3	6.1	7.0	10.8	9.3	15.4	
Fighting								.001
Involved Less	5.9	12.2	24.2	28.6	9.7	24.1	7.7	
Involved More	13.8	18.4	12.1	14.3	29.0	29.6	13.8	
Robberies								.000
Involved Less	3.6	12.2	6.1	30.2	8.6	16.7	15.4	
Involved More	12.3	16.3	21.2	14.0	20.4	35.2	23.1	
Injuring Someone								.199
Involved Less	1.2	6.1	0	9.3	4.3	3.7	3.8	
Involved More	6.7	4.1	6.1	2.3	6.5	7.4	11.5	
Injured by Someone								.012
Involved Less	4.3	10.2	9.1	16.3	10.8	18.9	7.7	
Involved More	11.0	16.3	18.2	7.0	14.0	20.8	30.8	

Significant differences were found for four of the six violent acts: shooting, assault, fighting, and personal robbery. Among nonsellers, increases were reported more often than decreases for all acts. Type 3 (Cocaine, Heroin, and Marijuana) sellers report only decreases. Shootings decreased more often among all seller types, a surprise given the higher levels of systemic violence associated with three of the seller types. Among Type 5 and 6 sellers, more respondents reported increases than decreases in robberies, stabbings, and injuring someone. Thus, violence more often increased than decreased among most crack and cocaine sellers after initiation into drug use. Since the onset of drug use preceded selling for most sellers (Fagan and Chin, in press), it seems that violence potentials may have preceded involvement in selling.

Finally, drug-use patterns among sellers and nonsellers were analyzed. Recent evidence on drug selling in inner cities found that selling groups prohibited drug use among their members, especially during business hours (Chin 1986; Cooper 1987; Mieczkowski 1986; Williams 1989). Vigil (1988) reported that Chicano gang members in East Los Angeles rejected heroin users from the gang, believing that a gang member could not maintain loyalty to the gang and to his or her addiction at the same time. Others (Fagan 1989) found that drug use and dealing were intrinsic to gang life. Studies of drug dealers found that they "drift" into dealing from their participation in drug-using circles, rather than suddenly entering into dealing from outside drug cultures or scenes (Adler 1985; Murphy et al. 1989).

Among this sample, table 5 showed that at least half of the respondents in each seller type reported prohibitions against drug use while dealing. Accordingly, variation in drug-use patterns was anticipated. Crack sellers, whose organizations seemed to be well articulated, were expected to have relatively low drug use. Other seller types, whose organizations were less formal, were expected to report greater involvement in drug use. Respondents were asked to report their lifetime frequency of substance use for 15 substances. Since multiple drug-use patterns are commonplace among high-rate drug users, factor analyses were used to identify distinct underlying trends in drug use. Four factors were identified, accounting for 60.2 percent of the variance: intravenous (IV) heroin and cocaine use, cocaine (and crack) smoking or snorting, oral stimulant and depressant use (pills, psychedelic drugs), and marijuana and alcohol use. The factor coefficients and statistics are shown in table 10. The factor scores were retained and used for comparisons of drug use among seller types.

ANCOVA routines compared factor score means for each of these four dimensions of substance use by seller type. Means factor scores for nonsellers are shown, although they were excluded from the analyses. To test for the influence of group participation, a second independent variable for group selling was included. Covariates for age also were included. Table 11 shows that significant differences by seller type were evident for all

TABLE 10. *Rotated factor coefficients for lifetime frequency of drug use*

Type of Drug	Heroin and Cocaine IV	Cocaine and Crack Smokers	Uppers and Downers	Alcohol and Marijuana
Crack	-.121	.781	-.004	-.056
Cocaine–Snorting	.252	.555	-.014	.388
Speedball (IV)	.896	-.055	.108	.030
Cocaine IV	.846	-.035	.186	-.051
Cocaine–Freebase	.072	.829	.113	.101
Heroin IV	.903	-.041	.120	.068
Heroin–Snorting	.716	.093	.025	.163
Methadone	.788	-.020	.161	-.094
Marijuana	-.060	.032	.061	.795
PCP	-.144	.486	.329	.057
LSD	.056	.239	.645	.256
Speed, Uppers	.089	.108	.823	.117
Barbiturates, Downers	.434	.039	.666	-.027
Other Drugs	.089	-.017	.392	.021
Alcohol	-.003	.099	.188	.662
Eigenvalue	4.19	2.53	1.26	1.05
% Variance Explained	27.9	16.9	8.4	7.0

dimensions of drug use except pill use. Group status was significant only for cocaine smoking and snorting. There were no significant interactions, and age covariates were significant only for the IV-drug-use dimension.

Drug-use patterns tended to reflect seller type, especially for individual sellrs. The highest factor score means for heroin sellers were for IV drug use, for marijuana sellers were for marijuana use, and for cocaine or crack sellers were for cocaine smoking or snorting. There were small differences in cocaine use between individual and group sellers for Type 5 and 6 crack sellers. But cocaine use among Type 4 cocaine sellers in groups appeared to be substantially lower than among individual sellers. This may reflect organizational rules or norms opposing substance use.

IV drug use was evident only in those groups in which heroin was sold and was most evident in Type 3 and 4 individual sellers. Type 6 sellers (crack and other drugs) in groups had the highest factor scores for illicit pill use. Type 4 and 5 crack sellers avoided IV drug use, suggesting that they did not inject cocaine despite their high involvement in smoking or snorting it. For all four types of substance use, nonsellers were less often involved than were sellers, regardless of whether they sold individually or in groups. Illicit pill use among marijuana sellers was the only drug use greater for individual than for group sellers.

TABLE 11. *Analysis of variance of drug use factor scores by seller type and group selling, controlling for age**

Drug-Use Factor	Selling Status	Type of Seller							Significance of F			
		Nonsellers	Marijuana	Heroin	Cocaine, Heroin, and Marijuana	Low Crack and Cocaine	Crack, Cocaine, and Marijuana	Crack, Cocaine, and Heroin	Type	Group	Type by Group	Age†
Heroin and Cocaine IV Use	Alone	−.10	−.13	1.23	1.41	−.31	−.29	.01	.000	.986	.211	.000
	Group		.08	.95	.96	−.35	−.20	.40				
Cocaine Smoking or Snorting**	Alone	.05	.12	−.40	.39	.40	.87	.49	.000	.008	.449	.101
	Group		−.39	−.98	−.32	.22	.75	.52				
Pill Use and Psychedelics	Alone	.44	.55	.05	−.25	.47	−.22	.09	.120	.622	.219	.778
	Group		−.20	.19	.14	.13	.07	.87				
Marijuana Use	Alone	.52	.48	−.14	.27	.08	.51	−.22	.001	.564	.387	.341
	Group		.78	.10	.79	−.10	.37	−.04				

*Mean score for categorical index of lifetime frequency; nonsellers excluded from ANOVA significance tests.
**Including crack smoking.
†Covariate, main effects adjusted for covariate effects.

Table 11 suggests that drug use and selling jointly occur within the social worlds of specific drugs. There was little evidence that sellers avoided using the drugs that they sold; in fact, they tended to have the greatest use of those drugs they sold. Only among group cocaine and heroin sellers (Type 4) was there evidence of avoidance of use of the drug they marketed. IV drug use was confined to specific groups that also sold heroin, and these groups tended to avoid cocaine smoking or snorting. Cocaine smoking and snorting was evident among the groups that sold crack plus among individual Type 4 sellers.

Despite the high proportion of sellers that reported prohibitions against use while selling, many sellers also used drugs. Evidently, these prohibitions did not extend to personal recreational use, or they were ineffective. Use and dealing appear to be reciprocally related, with access to the substance and immersion in a drug-specific social network likely contributors to the drug-specific patterns. Substance use appears equally likely regardless of whether selling occurs alone or in groups. The provocative image of the well-disciplined dealer, whose motivations are exclusively financial and who abstains from drug use to maximize his or her dealing skills, has no grounding in these data. Drug sellers also are drug users, and their efforts as dealers and behaviors as users apparently overlap extensively.

CONCLUSION

Young crack sellers have been portrayed in the popular literature as young entrepreneurs, highly disciplined and coldly efficient in their business activities, often using violence selectively and instrumentally in the service of profits. An ethos that rejects drug use also has been attributed to new, young crack sellers, especially those in groups, whose interest is not drug use but the material wealth that rewards the most efficient seller. Crack-selling groups have been described in the popular media as emerging organized crime groups, with nationwide networks of affiliates and franchises to distribute drugs (*Newsweek* 1986). This image tends to attribute the spread of crack use in urban areas to a conspiracy involving cocaine importers, nascent organized crime groups, and youth gangs from the inner cities of the major cocaine importation areas. This study suggests that none of these stereotypes appear to be true.

Crack sellers are violent more often than other drug sellers. Further, their violence is not confined to the drug-selling context. Compared to other drug sellers and nonsellers, they more often are involved in a wide range of serious nondrug crimes, including both property and violent offenses. They also are involved in patterns of multiple drug use. Like other drug sellers, they most often use the drugs that they sell and avoid others that may be unfamiliar. Drug-use patterns of both crack and other drug sellers suggest that drug use and dealing occur within distinct but parallel social worlds that are characterized by generic social and economic processes.

Violence in drug selling may be interpreted as part of a generalized pattern of crime and violence or as an economic behavior that reflects aspects of social control, good business strategy, and self-help. Certainly, the evidence on systemic violence within crack-selling groups suggests that they are more likely to employ violence both for organizational maintenance and as a strategic weapon in economic competition. However, crack sellers also are more likely to be involved in a wide range of law violations as well as regular drug use. The diversity and frequency of nondrug crimes suggests that crack sellers' behaviors are neither moralistic acts nor crimes in the pursuit of justice. That is, these appear to be neither crimes of social control nor self-help. In fact, their patterns of drug use and crime suggest a pattern of spuriously related behaviors indicative of a generalized pattern of deviance. Drug use, drug selling, and violence were evident among all seller types. Compared to other drug sellers, crack sellers simply seem to be more deeply immersed in generic social processes of drug use, violence, and other crimes.

Accordingly, both views seem appropriate. Like other offenders, drug sellers exhibit versatility in their patterns of violence and other crimes (Klein 1984). Crack and cocaine HCl sellers are more likely than other sellers to use violence for economic regulation and control, but are also more likely to use violence in other contexts. Violence among crack sellers may reflect either processes of social selection or the contingencies of the social settings in which crack selling is concentrated. These distinctions cannot be sorted out in these data, and perhaps they are reciprocal processes that cannot be disentangled. Nevertheless, the results suggest common pathways to drug use, drug selling, and nondrug crimes. For many sellers of cocaine products, crack has been integrated into behaviors that were evident before their involvement with crack or its appearance on New York City streets.

If violence is both intrinsic to drug selling and, in urban areas, part of a generalized pattern of deviance, then the patterns of violence within drug selling are specific applications of behaviors that also occur in other contexts. Thus, it would be unwise to conclude that the drug business makes people violent or that people are violent in the context of drug selling but not elsewhere. Drug selling is etiologically related to violence, but only because violence is *intrinsic* to drug selling. It is more likely that drug selling provides a context that facilitates violence, in which violence is acceptable given the illicit nature of drug selling and the absence of other forms of legal recourse or social control.

Nevertheless, crack sellers more often are involved in violence and drug use. The crack market apparently has intensified the social processes that sustain both drug-related and other violence. Crack has evolved in a specific and economic social context, in which social and economic transformations have altered the formal and informal controls that previously had

shaped violent behaviors. Also, factors unique to crack distribution apparently contribute to the increased violence.

The expansion of illicit drug sales in New York City has paralleled the decrease in legitimate economic opportunities in this decade. Participation in the informal economy has increased, especially among minorities living in neighborhoods where the demand for goods and services in the informal economy rivals participation in the formal economy (Sassen-Koob 1989). In the volatile crack markets, crack sometimes has become a "currency of the realm," a liquid asset with cash value that has been bartered for sex, food, or other goods (Inciardi, in press; Williams 1989). Sellers or users with large amounts become targets for "take offs" by either other sellers or users wanting the drug. In turn, violence as self-defense is a common theme and an essential element in controlling situations in which large volumes of crack are present (Bourgois 1989).

Johnson et al. (in press) suggest that there is a process of self-selection and social selection of violent persons in the crack trade that accounts for higher levels of violence than in previous drug epidemics. These people are used both to maintain internal discipline in drug-selling groups and as combatants in territorial disputes. Hamid (1990) attributes increases in violence associated with crack to the erosion of formal and informal social controls in neighborhoods whose human, social, and economic capital has been depleted over the past two decades. High rates of residential mobility and declining capital investment have contributed to an ecology of violence in several inner-city areas. The emergence of a volatile crack market perhaps has benefitted from these processes and intensified them. The participation of generally violent offenders in the crack trade, coupled with decreased controls and increased crime opportunities in socially fragmented areas, may account for the increased violence in the crack market.

If street-level drug sellers, in general, and crack sellers, in particular, exhibit behaviors that are part of a generalized pattern of deviance, then the characterization of crack-selling networks as a new organized crime menace has disillusioned the public as to appropriate social policies. If these new organizations are responsible for drug selling and its attendant violence, then it is difficult to explain the unlimited flow of new people who are selling drugs. Policies that seek sources of conspiratorial decisions to sell drugs risk the danger of reifying the image of drug dealers as cold businessmen and entrepreneurs and rejecting debate on other policies that might address the entry of young men and women into drug selling and a wide range of violent behaviors. If violence and drug selling in the crack market reflect the social and economic disorganization of the neighborhoods where crack selling is concentrated, then policy should reflect sensible thinking about how to strengthen social areas to control crimes, stop the production of violent offenders, and mitigate crime-producing conditions.

FOOTNOTES

1. Adler points out that, although violence was rare in the drug-selling scenes she observed, it was always in the background as an implied threat in lieu of legal recourse to mediate business disputes.

2. McGeary and Lynn (1988) comprehensively reviewed the economic restructuring of American inner cities over the past 20 years.

3. The definition of social control used here is similar to the processes described by Black (1983) and refers to the processes that people use to respond to deviant or antagonistic behaviors. These may include verbal expressions of disapproval or threats or sanctions that may either punish or incapacitate. Self-help refers to responses to aggression or threat.

4. Belenko et al. (in press) analyzed arrest patterns for crack offenses.

5. This approach to grouping subjects used their relative proximity in a specified dimensional space. The nonhierarchical centroid method was less useful than the hierarchical models as a heuristic tool, as it displayed neither agglomerative nor divisive linkages (dendograms). However, this weakness was addressed by running sequential solutions that specified cluster sizes from three to seven. Comparisons of each successive iteration approximated a divisive hierarchical analysis.

   This classificatory procedure posed no question of statistical significance in the derivation procedure. The clusters were a heuristic tool that was instructive for partitioning drug sellers into groups for descriptive and analytic purposes. The types should be interpreted cautiously, however, as the procedure is sensitive to shifts in sample composition.

6. Johnson et al. (1985) defined each type of role. These definitions were read aloud to respondents during the interview.

7. Participants in New York City refer to their groups as "crews," "posses," or other terms specific to locales or ethnicity of the members. Such groups are distinct from groups of street-corner youths or youth gangs, in that drug-selling activities provide the rationale for group affiliation. They also may be polyethnic groups, unlike the ethnic or neighborhood affiliations common in youth gangs. Williams (1989) described "crews" in New York, and Klein et al. (in press) described the confluence of drug selling and "traditional" youth gangs in Los Angeles.

8. ANCOVA procedures first considered covariate effects in descending order of their F scores and adjusted the main effects and interactions for effects of covariates.

REFERENCES

Adler, P.A. *Wheeling and Dealing: An Ethnography of an Upper-Level Dealing and Smuggling Community.* New York: Columbia University Press, 1985.

Aldenfelder, M.S., and Blashfield, R.K. *Cluster Analysis.* Beverly Hills, CA: Sage Publications, 1984.

Anglin, M.D. A review of alcohol, drugs, and aggression. *J Stud Alcohol* 35(5):469-490, 1984.

Ball, J.C.; Schaeffer, J.C.; and Nurco, D.N. The day-to-day criminality of heroin addicts in Baltimore: A study in the continuity of offense rates. *Drug Alcohol Depend* 12:119-142, 1983.

Belenko, S.; Fagan, J.; and Chin, K. Criminal justice responses to crack. *J Res Crime Delinquency* 21(1), in press.

Biernacki, P., and Waldorf, D. Snowball sampling: Problems and techniques of chain referral sampling. *Sociol Meth Res* 10:141-163, 1981.

Black, D. Crime as social control. *Am Sociol Rev* 48:34-45, 1983.

Bourgois, P. In search of Horatio Alger: Culture and ideology in the crack economy. *Contemp Drug Probl* 16(4):619-650, 1989.

Chin, Ko-Lin. Chinese Triad Societies, Tongs, Organized Crime, and Street Gangs in Asia and the United States. Unpublished doctoral dissertation, Department of Sociology, University of Pennsylvania, 1986.

Cooper, B.M. Motor City breakdown. *Village Voice,* December 1, 1987. pp. 23-35.

Fagan, J. The social organization of drug use and drug dealing among urban gangs. *Criminology* 27(4):633-670, 1989.

Fagan, J., and Chin, K. Initiation into crack and cocaine: A tale of two epidemics. *Contemp Drug Probl* 16(4):579-618, 1989.

Fagan, J., and Chin, K. Social processes of initiation into crack use and dealing. *J Drug Issues,* in press.

Farley, J.E. Disproportionate Black and Hispanic unemployment in U.S. metropolitan areas. *Am J Econ Sociol* 46(2):129-150, 1987.

Farley, R., and Allen, W.R. *The Color Line and the Quality of Life in America.* New York: Russell Sage Foundation, 1987.

Fields, A.J. Weedslingers: Young black marijuana dealers. In: Beschner, G., and Friedman, A.S., eds. *Teen Drug Use.* Lexington, MA: Lexington Books, 1985. pp. 85-104.

Frank, B.; Hopkins, W.; and Lipton, D.S. Current drug use trends in New York City. Albany: New York State Division of Substance Abuse Services, June 1987.

Goldstein, P.J. The drugs–violence nexus: A tri-partite conceptual framework. *J Drug Issues* 15:493-506, 1985.

Goldstein, P.J. Drugs and violent crime. In: Weiner, N.A., and Wolfgang, M.E., eds. *Pathways to Criminal Violence.* Newbury Park, CA: Russell Sage Foundation, 1989. pp. 16-48.

Goldstein, P.J.; Belluci, P.A.; Spunt, B.J.; and Miller, T. Frequency of cocaine use and violence: A comparison between men and women. New York: Narcotic and Drug Research Inc. Unpublished manuscript.

Goldstein, P.J.; Brownstein, H.H.; Ryan, P.; and Belluci, P.A. Crack and homicide in New York City, 1989: A conceptually based event analysis. *Contemp Drug Probl*, in press.

Goldstein, P.J.; Lipton, D.S.; Preble, E.; Sobel, I.; Miller, T.; Abbott, W.; Paige, W.; and Soto, F. The marketing of street heroin in New York City. *J Drug Issues* 14:553-566, 1984.

Goldstein, P.J.; Lipton, D.S.; Spunt, B.J.; Belluci, P.A.; Miller, T.; Cortez, N.; Khan, M.; and Kale, A. Drug Related Involvement in Violent Episodes. Final Report, grants DA 03182 and DA 04017, National Institute on Drug Abuse. New York: Narcotic and Drug Research Inc., 1987.

Hamid, A. The political economy of crack-related violence. *Contemp Drug Probl* 17(1):31-78, 1990.

Hochschild, J.L. Equal opportunity and the estranged poor. *Ann Am Acad Political Soc Sci* 501:143-155, 1989.

Hopkins, W. Street perspectives on drug use. Presented at the Conference on Drug Abuse Prevention, John Jay College of Criminal Justice, New York, NY, April 7, 1989.

Ianni, F.A.J. *Black Mafia: Ethnic Succession in Organized Crime.* New York: Simon and Schuster, 1974.

Inciardi, J.A. Beyond cocaine: Basuco, crack, and other coca products. *Contemp Drug Probl* 14(3):461-492, 1987.

Inciardi, J.A. Sex for crack: A research note. *Contemp Drug Probl* 16(4):689-702, 1989.

Johnson, B.D.; Goldstein, P.J.; Preble, E.; Schmeidler, J.; Lipton, D.; Spunt, B.; and Miller, T. *Taking Care of Business: The Economics of Crime by Heroin Abusers.* Lexington, MA: Lexington Books, 1985.

Johnson, B.D.; Williams, T.; Dei, K.; and Sanabria, H. Drug abuse and the inner city: Impacts of hard drug use and sales on low income communities. In: Wilson, J.Q., and Tonry, M., eds. *Crime and Justice: An Annual Review of Research.* Vol. 13. Chicago: University of Chicago Press, 1990. pp. 9-67.

Kasarda, J.D. Jobs, migration and emerging urban mismatches. In: McGeary, M.G.H., and Lynn, L.E., eds. *Urban Change and Poverty.* Washington, DC: National Academy Press, 1988. pp. 148-198.

Kasarda, J.D. Urban industrial transition and the underclass. *Ann Am Acad Political Soc Sci* 501:26-47, 1989.

Klein, M.W. Offense specialization and versatility among juveniles. *Br J Criminol* 24:185-194, 1984.

Klein, M.W.; Maxson, C.; and Cunningham, L. Street gang involvement in rock cocaine selling. Final report to the National Institute of Justice, grant 85-IJ-CX-0057. Los Angeles: UCLA Social Science Institute, 1988.

Kozel, N.J., and Adams, E.H., eds. *Cocaine Use in America: Epidemiological and Clinical Perspectives.* National Institute on Drug Abuse Research Monograph 61. DHHS Pub. No. (ADM)85-1414. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985.

Massey, D.S., and Eggers, M.L. The ecology of inequality: Minorities and the concentration of poverty, 1970–1980. *Am J Sociol* 95(5):1153-1188, 1990.

McBride, D.C. Drugs and violence. In: Inciardi, J.A., ed. *The Drug-Crime Connection.* Beverly Hills, CA: Sage, 1981. pp. 105-124.

McGeary, M.C.H., and Lynn, L.E., eds. *Urban Change and Poverty.* Washington, DC: National Academy Press, 1988.

Mieczkowski, T. Geeking up and throwing down: Heroin street life in Detroit. *Criminology* 24(4):645-666, 1986.

Mieczkowski, T. Crack distribution in Detroit. *Contemp Drug Probl,* in press.

Murphy, S.; Waldorf, D.; and Reinarman, C. Drifting into dealing: Becoming a cocaine seller. San Francisco: Institute for Scientific Analysis. Unpublished manuscript.

Musto, D. *An American Disease: Origins of Narcotic Control.* 2d ed. New York: Oxford University Press, 1989.

Newsweek. Kids and Cocaine. March 17, 1986. pp. 58-68.

New York Times. Crack: A Disaster of Historic Dimensions, Still Growing. March 28, 1989a. p. A20.

New York Times. Report from the Field on an Endless War. March 12, 1989b. Section 4, p. 1.

New York Times. Selling Milk, Bread, and Cocaine in New York. March 30, 1989c. p. A1.

New York Times. Detroit Drug Empire Showed All the Traits of Big Business. December 18, 1989d. p. A1.

New York Times. Even with TNT, New York City Can't Destroy Drug Bazaars. June 1, 1989e. p. A1.

Sampson, R.J. Crime in cities: The effects of formal and informal social control. In: Reiss, A.J., Jr., and Tonry, M., eds. *Communities and Crime.* Chicago: University of Chicago Press, 1986. pp. 271-310.

Sampson, R.J. Urban black violence: The effect of male joblessness and family disruption. *Am J Sociol* 93(2):348-382, 1987.

Sassen-Koob, S. New York City's Informal Economy. In: Portes, A.; Castells, M.; and Benton, L.A., eds. *The Informal Economy: Studies in Advanced and Less Developed Countries.* Baltimore: Johns Hopkins University Press, 1989. pp. 60-77.

Siegel, R.K. Cocaine free base abuse: A new smoking disorder. *J Psychoactive Drugs* 14:321-337, 1982.

Siegel, R.K. New patterns of cocaine use: Changing doses and routes. In: Kozel, N.J., and Adams, E.H., eds. *Cocaine Use in America: Epidemiological and Clinical Perspectives.* National Institute on Drug Abuse Research Monograph 61. DHHS Pub. No. (ADM)85-1414. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985.

Siegel, R.K. Cocaine smoking: Nature and extent of coca paste and cocaine freebase abuse. In: Washton, A.M., and Gold, M., eds. *Cocaine: A Clinician's Handbook.* New York: Guilford Press, 1987. pp. 175-191.

Spitz, H.I., and Rosecan, J.S. Cocaine reconceptualized: Historical overview. In: Spitz, H.I., and Rosecan, J.S., eds. *Cocaine Abuse: New Directions in Treatment and Research.* New York: Brunner-Mazel, 1987. pp. 5-18.

Tienda, M. Neighborhood effects and the formation of the underclass. Presented at the Annual Meeting of the American Sociological Association, San Francisco, CA, August 1989a.

Tienda, M. Puerto Ricans and the underclass debate. *Ann Am Acad Political Soc Sci* 501:105-119, 1989b.

Vigil, J.D. *Barrio Gangs.* Austin, TX: University of Texas Press, 1988.

Wacquant, L.D., and Wilson, W.J. The costs of racial and class exclusion in the inner city. *Ann Am Acad Political Soc Sci* 501:8-25, 1989.

Waldorf, O.D. Final report of the ex-sellers project: An explanatory study of indirect criminal justice pressures on cocaine sellers. National Institute of Justice grant 89-IJ-CX-0036. Washington, DC: U.S. Department of Justice, 1989.

Waldorf, O.D.; Reinarman, C.; and Murphy, S. *Cocaine Changes.* Philadelphia: Temple University Press, 1990.

Washton, A., and Gold, M. Recent trends in cocaine abuse as seen from the "800-Cocaine Hotline." In: Washton, A.M., and Gold, M., eds. *Cocaine: A Clinician's Handbook.* New York: Guilford Press, 1987. pp. 10-22.

Watters, J.K.; Reinarman, C.; Fagan, J. Causality, context and contingency: Relationships between drug abuse and delinquency. *Contemporary Drug Problems* 12(3):351-373, 1985.

Williams, T. *The Cocaine Kids.* New York: Addison-Wesley, 1989.

Zahn, M. Homicide in the Twentieth Century: Trends, types and causes. In: Gurr, T.R., ed. *Violence in America, Volume I: The History of Crime.* Newbury Park, CA: Sage, 1989. pp. 216-234.

Zimmer, L. Operation Pressure Point. Occasional Paper of the Center for Research on Crime and Delinquency, New York University School of Law. New York: New York University School of Law, 1987.

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5.1

Violence Associated With Acute Cocaine Use in Patients Admitted to a Medical Emergency Department

Steven L. Brody

INTRODUCTION

Cocaine abuse has been an increasing public health concern over the past decade. In the early 1980s, medical attention focused on dramatic cocaine-associated complications, including myocardial infarction, stroke, and sudden death (Cregler and Mark 1986). That attention broadened in the latter half of the 1980s as social and economic conditions were marked by an explosion in interpersonal violence and violent crimes, including "cocaine related" homicides (Johnson et al. 1987; Harruff et al. 1988) and assaults, to include an investigation of the psychopharmacologic effects of cocaine (Gawin and Ellinwood 1988; Dackis and Gold 1988; Johanson and Fischman 1989). Medical, trauma, and psychiatric visits to hospitals continued to rise, and, by 1988, data from the National Institute on Drug Abuse (NIDA) Drug Abuse Warning Network (DAWN) indicated that cocaine was the most frequently mentioned illicit substance involved in emergency department (ED) visits and in medical examiner reports on drug-related deaths (National Institute on Drug Abuse 1989). Consequently, many researchers are beginning to explore one of the most challenging aspects of the cocaine abuse problem—the relation between cocaine use and violence—a complex issue that includes social, economic, and medical factors.

One of the most comprehensive explanations of the relations between drug use and violence is the tripartite scheme developed by Goldstein (1986; Goldstein et al. 1988). In this analysis, one dimension leading to violence is termed "systemic," which is related to drug distribution and trafficking. A second is "economic compulsive," which describes the violence associated with acquisition of money to purchase drugs and includes muggings and property crimes. A third factor is "psychopharmacologic," or violent

behavior induced by effects of the drug. Clearly, there are situations in which these factors may overlap, and some factors may be more important with different drugs of abuse. Based on careful interview data, Goldstein concluded that much of the cocaine-related violence in his research was psychopharmacologic in nature.

A number of recent studies have suggested a link between the pharmacologic effects of cocaine and violent behavior. A study of callers to a national telephone "hotline" for cocaine, which examined medical complications in self-referred cocaine abusers, found that 27 percent of adolescent cocaine abusers had episodes of violent behaviors during cocaine use (Roehrich and Gold 1988). Wetli and Fishbain (1985) described seven cocaine users who developed violent and assaultive behavior associated with intense paranoia and psychosis secondary to severe cocaine intoxication. More compelling data comes from a study of hospitalized patients with cocaine psychosis during the "freebase" cocaine epidemic in the Bahamas in 1984 (Jekel et al. 1986). Analysis of this study by Manschreck et al. (1988) revealed that violent behavior was a key presenting feature in 55 percent of the psychotic patients and 36 percent of the nonpsychotic cocaine users. Another group of researchers examining psychiatric emergency room patients in New York City with acute cocaine intoxication suggested that smokable cocaine, in the form of freebase or "crack" cocaine, was an important factor in violent behavior (Honer et al. 1987), yet others found no difference between route of use and violent behavior (Brower et al. 1988).

In contrast to these findings, other investigators have not found a relationship between cocaine use and violent crime (Collins et al. 1988; Kozel and DuPont 1977). Collins' group used urine drug testing to identify recent users within 24 hours of arrest. They concluded that newly jailed cocaine users were less likely to be arrested for committing violent crimes, compared to those who did not abuse drugs at all. Further, Fagan et al. (this volume) found that most violent criminal behavior among drug users was systemic, that is, related directly to the business of drug distribution rather than to drug use.

Animal studies of the effects of cocaine on aggressive and violent behavior are equivocal, and studies are difficult to compare, as a variety of models are used. As a psychomotor stimulant, cocaine increases locomotor activity and stereotypy at higher doses (George 1989). Relative to violent behavior, investigators have reported that fighting in mice increases as cocaine dose increases (Hadfield 1982). In contrast, other researchers, using different designs, have observed that attack behavior and aggressiveness decreases as dose is increased (Miczek 1977; Kantak 1989). Perhaps the most exciting area of investigation in the study of animal behavior is of specific neurochemical effects, primarily alterations in central dopamine transmission, and correlations with behavioral changes (Johanson and Fischman 1989). In

spite of the growing body of research linking cocaine to violence and aggressive behavior, much remains poorly understood. Data supporting the hypothesis that a direct psychopharmacologic effect of cocaine leads to violent behavior is limited by a paucity of observations of acutely intoxicated users and the problems inherent in performing human studies with a drug known to be highly toxic with often unpredictable effects. The purpose of this chapter is to describe a group of patients who presented to a medical ED (MED) with violent and aggressive behavior associated with acute cocaine use. While largely observational, this information may help to explain one facet of the complex relationship between cocaine use and violence.

METHODS

Patients described in this study were seen over a 2-year period between August 1986 and August 1988. All patients were seen at the MED of Grady Memorial Hospital, the major provider of indigent care in Atlanta, GA. The MED has over 65,000 patient visits per year and is the primary unit for the acute management of drug-abuse-related problems. Other areas within the hospital that provide emergency care include a surgical-trauma area, a gynecology-obstetrics unit, a pediatric emergency department, and a psychiatric crisis clinic.

Patients with cocaine-related violent behavior admitted to the MED were pooled from two separate patient data bases that had been used for previous studies. One patient set (A) was a consecutive series of 223 patients who visited the MED with cocaine-related problems over a 6-month period between August 1986 and February 1987 (Brody et al., in press). In this study, the medical records of all patients with the term "cocaine" in the MED record were retrospectively reviewed. Patients were also taken from a second data base (B) that was a nonconsecutive series of 29 patients with cocaine-associated rhabdomyolysis (a clinical and laboratory syndrome resulting from skeletal muscle injury and the release of cell contents into the blood) who came to the MED between January 1987 and August 1988.

In each of these studies, records were made of demographic information, including patient age and sex, details of drug use, including route of use and frequency; specific medical complaints; physical examination findings; laboratory data, including toxicologic data; management, including acute drug therapy; and patient outcome.

Data from these two studies were examined for inclusion in the present study if there was information in the MED record documenting violent or aggressive behavior associated with the ED visit. Criteria for violent or aggressive behavior included evidence of one or more of the following: assault, destruction of property, "combative" or "agitated" behavior, and other "uncooperative" or threatening behavior requiring physical restraint.

Each patient had evidence of acute cocaine use documented by at least two of the following three criteria: (1) a history of cocaine use within 12 hours; (2) witnessed behavior, symptoms, or clinical findings consistent with acute cocaine intoxication as described by other studies (Gay 1982); or (3) detection of cocaine metabolites in the urine.

RESULTS

Patients

Thirty-seven patients with violent or aggressive behavior associated with acute cocaine intoxication were identified from the two patient data sets described above. Nineteen patients were identified in data set A, representing 8.1 percent of all visits to the MED for acute and chronic cocaine-associated medical problems over a 6-month period. An additional 18 patients were identified in data set B. Over the 2-year, nonoverlapping period that brackets these two data sets, there was an estimated total of 900 visits to the MED for acute and chronic cocaine-associated medical problems. Therefore, the patients with violent or aggressive behavior associated with acute cocaine use represented at least 4 percent of all cocaine-related visits to the MED.

Patients included 31 men and 6 women with a mean age of 28.2 years (range 16 to 46 years). All routes of cocaine use were used; however, route was not specified in five patient charts. Intravenous injection was used by 45 percent of patients, 33 percent smoked cocaine, nasal insufflation ("snorting") was specified by four patients, and one patient ingested cocaine orally. Four patients used multiple routes. Estimates of amounts of drug use and frequency of drug use were extremely variable and not well documented. While some patients described daily use of several grams, many patients described themselves as "occasional" users. Cocaine use was verified by toxicologic testing to quantify cocaine metabolite in patient's urine. Drug testing was not done in five patients. Cocaine metabolites were not detected in the urine of four patients despite a history of acute cocaine use, making the diagnosis of *acute* cocaine use unclear in these patients.

Other drugs of abuse and alcohol were commonly used acutely, in combination with cocaine. Alcohol use was determined by history or was detected in the blood of half the patients, although the blood level was less than 100 mg/dL in all but one patient. Other drugs used with cocaine, as determined by history or toxicologic testing, included benzodiazepines in four patients, opiates in three patients, marijuana in three patients (determined by history only), phencyclidine in two patients, and tricyclic antidepressant in one patient. Five patients used more than two substances of abuse, including cocaine. Only 19 patients used only cocaine. Two patients used cocaine and marijuana.

Behaviors

Violent behavior or aggressive behavior was described "in the field" just prior to the MED visit (and was often the reason the patient was brought to the hospital by police or family), occurred during the period that the patient was in the MED, or occurred in both settings. Violent behavior was described by police in 20 patients (54 percent), by paramedics in 6 patients (2 percent), by friends or family members in 11 patients (30 percent), and was directly observed in the MED by physicians and nurses in 30 patients (81 percent).

Behavior was determined to be associated or not associated with a psychotic or delirious state. Nonpsychotic behavior was described in 14 cases (38 percent). In these cases, behavior was described as "combative," "uncooperative," or "agitated." Description of a typical patient follows.

> A 31-year-old woman was brought to the MED for violent behavior after she was injected with cocaine. In the ambulance, she was "nervous" and refused intravenous therapy. In the MED, she was alert but uncooperative, fighting with the staff, "acting wildly," and repeatedly "leaping off the stretcher." She was restrained but continued to refuse to answer questions. After 2 hours, she was conversant and cooperative.

Behavior was described as "delirious," "paranoid," or associated with altered mental status in 23 cases (62 percent). These patients had a behavior pattern that was typical of cocaine-induced psychosis or had an altered mental status with disorientation and violent behavior after a seizure or syncopal spell. These patients also shared many of the combative and agitated features of the nondelirium cases. The following patient had such a presentation:

> A 42-year-old man was brought to the MED by police after threatening to harm his mother after he used cocaine. He was found by police running in the street yelling "people are going to kill me." He was initially disoriented, hypertensive, and tachycardic. He was combative and was managed with limb restraints and an intramuscular injection of haloperidol. He became lucid within several hours.

Seven patients specifically assaulted others (often security guards or police personnel), and property destruction was noted prior to the MED visit in four additional patients. The following is an illustrative case.

> A 34-year-old man with a long history of cocaine use came to the MED after "testing" intravenous cocaine prior to a large purchase. After injecting the cocaine, he began having hallucinations, chest pain, and shortness of breath. According to friends he then "went crazy" and began to destroy the furniture in the room. Pretending to have a gun, he entered the room next door, destroyed the furniture, and passed out. He was alert but anxious in the MED. He was admitted for management of rhabdomyolysis.

Many of these violent behaviors were associated with activity involving extreme exertion. Often patients were running down streets, had prolonged struggles with police, or, in one case, climbed a large fence around a highway after injecting 1 g of cocaine. Attempts by police officers to stop these patients were commonly met with struggles and fighting.

Medical Complications

In addition to behavioral changes, patients often had serious medical symptoms or complications. Cardiovascular complaints including chest pain, often associated with dyspnea and diaphoresis or palpitations were noted by seven patients. Hypertension was common. The following was an extreme case.

> A 25-year-old man with a history of mild hypertension was brought in by police for assault after he smoked "a large amount" of cocaine. He was combative but complained of chest pain in the MED. His blood pressure was 300/210 mm Hg, and he was given intravenous labetelol for control of his blood pressure and admitted to the hospital.

Serious neurologic complications, all previously known to be associated with cocaine use (Lowenstein et al. 1987), occurred in 11 patients, including 5 who developed coma following violent behavior, 4 who had seizures, and 2 who experienced syncope. Violent and aggressive behavior commonly occurred after seizure or syncope as the following case illustrates.

> A 19-year-old man had a seizure after smoking crack and then began to fight with his friends. Despite being held down, he kicked the paramedics and screamed, "I'm going to kill the [person] who gave me crack." In the MED, he violently fought with the staff. He was fully restrained and given intramuscular haloperidol.

Another serious medical complication was rhabdomyolysis, diagnosed in 18 patients, 2 of whom required dialysis for renal failure. This high incidence

is due to the bias introduced by the use of the rhabdomyolysis data set (data set B) for patient selection.

Respiratory arrest following a period of violent behavior occurred in three patients, all requiring endotracheal intubation and ventilatory support. This potentially fatal complication has been previously described by Wetli and Fishbain (1985) in a description of patients with "excited delirium."

Laboratory test abnormalities occurred in many of the patients with violent behavior including leukocytosis (white blood cell count greater than 10,000 cells/mm^3), elevated serum creatinine (greater than 2.0 mg/dL), and a mild metabolic acidosis. Approximately one-third of patients had a fever (oral temperature greater than 38 °C), and two patients were hyperthermic (temperature greater than 40 °C). Minor trauma comprised of multiple lacerations or abrasions occurred in 11 patients (30 percent).

Therapy

Most patients did not receive a specific drug therapy for violent behavior. Seven patients had full resolution of altered mental status and behavioral changes at the time of evaluation in the MED. Extremity (limb) restraints (leather or cloth) were used for 13 patients and required multiple medical staff members for application.

Drug therapy was rarely used. Haloperidol was used in six patients, all of whom required extremity restraints. One patient received intravenous lorazepam for behavior management, and one patient (previously described) received intravenous labetolol to control severe hypertension.

Of the 37 patients, 20 (54 percent) were admitted to the hospital for management of medical complications or for evaluation of persistent abnormal mental status. This included all 20 of the patients identified in data set B and 3 of 17 patients from data set A. Of those not admitted, six were released into police custody, two were transferred to the psychiatry department for further evaluation, and nine were discharged home from the MED. All patients who were admitted were alive at the time of discharge from the MED or the inpatient service.

DISCUSSION

This study found that patients with acute cocaine intoxication may present with a wide variety of violent and aggressive behavior patterns. Further, observations from this study suggest that patients with cocaine-associated violent or aggressive behavior, seen in the ED of a large inner-city hospital are acutely ill patients who are difficult to manage and have multiple complex medical complications as a consequence of cocaine intoxication. These findings are in agreement with previous studies linking the pharmacologic

effects of the cocaine with violent behavior. Wetli and Fishbain (1985) were among the first to describe clinical characteristics of a series of acutely ill cocaine-intoxicated patients with violent behavior. Several other groups have documented violent behavior occurring in the setting of acute cocaine intoxication. Honer et al. (1987) provide a limited description of 70 patients with acute psychiatric symptoms, of which at least half had some violent behavior; however, details were not provided. Further, Roth et al. (1988) described a large series of acutely intoxicated patients admitted for rhabdomyolysis who were often violent, combative, and agitated. Together, these patient observations demonstrate a "proneness to violence," particularly associated with cocaine-induced psychosis, as was described by Post (1975). Additionally, these data support previous observations that violent behavior can be a manifestation of cocaine intoxication in the absence of psychosis (Manschreck et al. 1988). There are several lines of evidence that support a psychopharmacologic basis for cocaine-induced violent behavior in humans.

Cocaine is a complex pharmacologic agent that acts as a local anesthetic and as a central nervous system (CNS) neurochemical modulator. The major CNS effects of acute cocaine use are increases in the major neurotransmitters: dopamine, norepinephrine, and serotonin (Gold et al. 1986). These occur because cocaine blocks the intrasynaptic reuptake of these neurotransmitters, resulting in a flood of intrasynaptic neurochemicals and, consequently, increased postsynaptic stimulation by these neurochemicals. Behaviorally, the increased dopamine levels are likely responsible for cocaine-induced euphoria at low levels and dysphoria at higher levels (Gold et al. 1986; Johanson and Fischman 1989). Dopamine is postulated to be the key neurotransmitter responsible for positive reinforcement or drug "craving" (Ritz et al. 1987). Norepinephrine increases levels of alertness and, together with dopamine, results in increased psychomotor activity and seizures. Examples of peripheral effects of increased norepinephrine transmission are cardiovascular findings of hypertension, tachycardia, and arrhythmia (Dackis et al. 1989).

Chronic cocaine use is hypothesized to deplete the neurotransmitter pool of dopamine, norepinephrine, and serotonin, and, therefore, to result in a decrease in neurotransmitter stimulation (Gold et al. 1986). Recent studies in rats chronically treated with cocaine have demonstrated a decrease in brain levels of dopamine metabolites (Wyatt et al. 1988). Evidence that this may occur in humans is supported by data showing that serum prolactin, a hormone under tonic dopamine inhibition, is increased in chronic cocaine abusers (Gawin and Kleber 1985a; Mendelson et al. 1988). While there are several potential mechanisms for this, a decreased dopamine effect is the most attractive explanation.

Similar neuroendocrine changes have been correlated with aggressive behavior and suicide. Fishbein et al. (1989) observed that serum prolactin levels

are greater in groups of substance abusers (including noncocaine substances) who have high levels of aggressive behavior, suggesting that this hormone may be a marker for neurochemical changes that increase aggressive behavior. Cocaine withdrawal states are also associated with dopamine depletion and high prolactin levels (Mendelson et al. 1988). During this withdrawal period, which can begin within hours of discontinuing cocaine use, users may become irritable and agitated and may be prone to violent behavior (Gawin and Kleber 1986).

Fishbein et al. (1989) and others (Brown et al. 1982) have also suggested that modulation of serotonin is important in aggressive behavior. A decrease in serotonin, which is hypothesized to occur with chronic cocaine use (Gold et al. 1986), has been observed to occur in rats following acute cocaine injection (Hanson et al. 1987) and may have a role in violent behavior. The hypothesis that a fall in the neuroinhibitory effects of serotonin may be related to aggressive behavior is supported, in part, by data on humans, which show that cerebral spinal fluid levels of serotonin metabolite are decreased, possibly due to serotonin depletion, in individuals with compulsive–aggressive behavior and those with suicidal behavior (Brown et al. 1982).

Studies that investigate changes in neurochemical levels indicate that repeated doses of cocaine ("chronic"), even over 24 hours, result in different effects than single doses (Johanson and Fischman 1989; Hanson et al. 1987). Therefore, it is perhaps misleading to label patients in this study as "acutely" intoxicated, since it is unlikely that a single dose of cocaine was used. Although data concerning the intensity and chronicity of cocaine use were not available in the present study, Gawin and Kleber (1985b) have emphasized that the binge use of several grams of cocaine over several days is not uncommon. In addition, Brower et al. (1988) found that cocaine users with psychotic or violent symptoms used more cocaine over more days than those without symptoms. This chronic and intense use may be a key factor for precipitating violent behavior and deserves further attention in future studies that seek to identify discrete biologic factors that determine violent behavior.

Additional evidence that the psychopharmacologic effects of cocaine are linked to violent behavior comes from investigations of the effects of amphetamine, a cocainelike stimulant, on aggressive behavior. Amphetamine, like cocaine, increases CNS dopaminergic activity and results in increased drug self-administration; chronic use results in dopamine depletion (Seiden 1985; Gawin and Ellinwood 1988). Chronic use also results in a classic drug-induced psychosis, which includes inappropriate aggressive behavior (Seiden 1985; Sato 1986). Ellinwood (1971) described 13 persons who committed homicide while intoxicated by amphetamine. Asnis and Smith (1978) also described patterns of violent behavior in amphetamine users but suggested that personality and environmental factors played

important roles. As with human cocaine studies (Johanson and Fischman 1989), only limited human amphetamine behavior studies have been done. Beezley et al. (1987), using volunteer college students and relatively low doses (0.32 mg/kg) of oral dextroamphetamine, failed to show that the drug caused increased aggressive behavior when compared to placebo; however, this model may not be analogous to use patterns in chronic methamphetamine or other stimulant abusers.

Studies that show a lack of relationship between cocaine use and violent behavior are primarily studies of persons arrested for violent crimes (Collins et al. 1988; Kozel and DuPont 1977). These study populations differ from the populations that have linked cocaine with violent behavior in that the latter are often hospitalized patients. It is possible that acutely hospitalized patients described in the present study and by others (Brower et al. 1988; Honer et al. 1987; Jekel et al. 1986) were using higher doses of drug or using the drug more frequently and, despite committing violent crimes, were taken to a hospital for medical management instead of being incarcerated.

The possibility that jailed users are a different population from hospitalized users suggests that there is a dose–response factor related to violent behavior. This is consistent with Post's (1975) psychiatric description of acute cocaine as a spectrum or "continuum" of clinical syndromes. With lower doses, the patient experiences a feeling of increased power that may be associated with maniclike hyperactivity and a proneness to violence, but without a change in sensorium or mental status. With more severe intoxication, the patient presentation is that of a drug-induced psychosis and is associated with violent behavior. This also emphasizes another potential difference between studies related to the interpretation of the term "violent behavior." For example, violent behavior associated with psychosis or a delirium state is likely to be viewed as a different behavior than an assault committed while the cocaine abuser is only mildly intoxicated. In the former state, the individual may be termed "a psychiatric patient" and is taken to a hospital, while in the latter, the abuser is a "criminal" and is taken to jail.

The violence or aggressive behaviors associated with the psychopharmacologic effect of cocaine as described in this study may be multifactorial, a possibility that underlines the potential limitations of this study. Important factors include underlying psychiatric disease, environmental factors, and the effect of concomitant drug use. Underlying psychiatric disease is a common problem among the indigent homeless who frequent the inner-city hospitals. Further, Teplin (this volume) emphasized that psychosocial personality disorders are more common among drug users. In this context, there may be an increased incidence of violent behavior in the study population, but since there is not a control, cocaine-nonusing population for comparison, the question cannot be answered. Even if there is an increase in psychopathology in the study population, cocaine plays an important role.

As Post (1975) noted, the patient with underlying psychiatric disease is prone to cocaine-induced behavioral changes.

There are several environmental pressures that may be important in causing violent behavior in the described patient population. Subcultural behaviors associated with gangs, crowded living conditions, and adverse relationships with law enforcement officers are likely important factors but are beyond the scope of this discussion. Also, the ED environment itself may contribute to aggressive and violent behavior. Long waiting times, crowded conditions, and poor staff–patient communication in a high-stress setting have been implicated as a cause for violent behavior (Lavoie et al. 1988).

Finally, other intoxicants, coingested with cocaine, may cause violent or aggressive behavior. In the present study, almost half of the patients had detectable, though low, blood alcohol levels (less than 100 mg/dL). Both acute and chronic use of alcohol has been associated with violent behavior (Collins and Schlenger 1988). This may be a confounding factor in many other cocaine–violence studies because over 85 percent of cocaine users use alcohol (Roehrich and Gold 1988). Alcohol is rapidly metabolized and use cannot be detected after several hours so that studies, such as Collins et al. (1988) that depend on drug screens, may miss this important substance. Other drugs used by patients in this study that have been previously associated with violent behavior include amphetamine, opiates, and phencyclidine (Collins et al. 1988).

The patients in this MED study had a high incidence of cocaine-use-related medical problems, and a high percentage required hospital admission. This particular group of patients may not be representative of all patients with cocaine-associated violent behavior, because half were selected from a data base of patients that were admitted with cocaine-associated rhabdomyolysis, and if the rhabdomyolysis group is excluded, the hospitalization rate is only 18 percent. Nonetheless, the need for hospitalization of the violent cocaine-intoxicated patient should not be discounted. Wetli and Fishbain (1985) emphasized the importance of prompt, aggressive medical care for the violent patient presenting with "excited delirium," after they noted that several of these types of patients died while in police custody following arrests for assault and other crimes.

The management of the patient with acute cocaine intoxication and violent behavior does not usually require drug therapy (Brody et al., in press; Derlet and Albertson 1989). The half-life of cocaine is short, less than 1 hour when smoked or used intravenously (Johanson and Fischman 1989), and, as was the case in most of the patients in this study, the acute behavioral changes rapidly resolved spontaneously. Benzodiazepines, especially diazepam, have been shown to be the most efficacious agent for the management of acute cocaine intoxication, but a drug from this class was used in only one patient in this study. Animal studies show that diazepam

effectively prevents seizure and death, while other drugs, such as the beta adrenergic antagonist propranolol, are ineffective (Catravas and Waters 1981). Haloperidol has been most widely recommended as the drug of choice for the management of acutely psychotic patients (Ellison and Jacobs 1986). Anecdotally, it was effective and without complications when used in these cocaine-intoxicated patients. Sherer et al. (1989) found that pretreatment with haloperidol decreased the "pleasantness" of the cocaine effect and attenuated the cocaine-mediated hypertension. As a dopamine antagonist, it may play a beneficial role in the cocaine user with high-dopamine states but theoretically may be less effective in the chronically depleted, bingeing patient.

The use of leather or cloth limb and trunk restraints for the control of the combative patient is common and often necessary to protect the staff and the patient from bodily harm. The patient who continues to struggle against restraints may be at risk for other medical complications and therefore should be evaluated for adjunctive drug therapy with haloperidol or benzodiazepine.

Above all, an orderly approach to potential and acute medical problems with attention to respiratory, cardiovascular, and neurologic systems, is essential. Those caring for the violent cocaine abuser should be aware that the violent behavior may be short lived but that other serious medical problems may coexist that will not resolve spontaneously, i.e., violent behavior in the cocaine user should be considered a marker for associated medical problems.

CONCLUSION

The association of acute cocaine intoxication and violent behavior appears to be primarily related to a state of intense cocaine intoxication. Several potential neurotransmitter mechanisms may link cocaine with violent and aggressive behavior. Further animal studies are needed to continue to investigate neurochemical changes that correlate with behavioral changes.

Future research in man should include an investigation of acute neurochemical and endocrinologic changes associated with the cocaine-intoxicated patient. These studies must be controlled for environmental factors, polydrug use, and underlying psychiatric disease. Long-term followup of cocaine users may reveal chronic behavioral, neurochemical, and endocrinologic changes and may be important for future treatment programs.

REFERENCES

Asnis, S.F., and Smith, R.C. Amphetamine abuse and violence. *J Psychedelic Drugs* 10:371-377, 1978.

Beezley, D.A.; Gantner, A.B.; Bailey, D.S.; and Taylor, S.P. Amphetamines and human physical aggression. *J Res Pers* 21:52-60, 1987.

Brody, S.L.; Slovis, C.M.; and Wrenn, K.D. Cocaine related medical problems: A consecutive series of 233 patients. *Am J Med* 88:325-331, 1990.

Brower, K.J.; Blow, F.C.; and Beresford, T.P. Forms of cocaine and psychiatric symptom. *Lancet* 1:50, 1988.

Brown, G.L.; Goodwin, F.K.; and Bunney, W.E. Human aggression and suicide: Their relationship to neuropsychiatric diagnoses and serotonin metabolism. In: Ho, B.T.; Schoolar, J.C.; and Usdin, E., eds. *Serotonin in Biologic Psychiatry.* New York: Raven Press, 1982. pp. 287-307.

Catravas, J.D., and Waters, I.W. Acute cocaine intoxication in the conscious dog: Studies on the mechanism of lethality. *J Pharmacol Exp Ther* 217:350-356, 1981.

Collins, J.J.; Powers, L.L.; and Craddock, A. Recent drug use and violent arrest charges in three cities. Center for Social Research and Policy Analysis, Research Triangle Institute, NC. Presented at the American Society of Criminology, Chicago, IL, 1988.

Collins, J.J., and Schlenger, W.E. Acute and chronic effects of alcohol use on violence. *J Stud Alcohol* 49:516-521, 1988.

Cregler, L.L., and Mark, H. Medical complications of cocaine abuse. *N Engl J Med* 315:1495-1499, 1986.

Dackis, C.A., and Gold, M.S. Psychopharmacology of cocaine. *Psychiatr Ann* 18:528-530, 1988.

Derlet, R.W., and Albertson, T.E. Emergency department presentation of cocaine intoxication. *Ann Emerg Med* 18:542-546, 1989.

Ellinwood, E.H. Assault and homicide associated with amphetamine abuse. *Am J Psychiatry* 127:1170-1175, 1971.

Ellison, J.M., and Jacobs, D. Emergency psychopharmacology: A review and update. *Ann Emerg Med* 15:962-968, 1986.

Fishbein, D.H.; Lozovsky, D.; and Jaffee, J.H. Impulsivity, aggression, and neuroendocrine responses to serotonergic stimulation in substance abusers. *Biol Psychiatry* 25:1049-1066, 1989.

Gawin, F.H., and Ellinwood, E.H. Cocaine and other stimulants: Actions, abuse and treatment. *N Engl J Med* 318:1173-1182, 1988.

Gawin, F.H., and Kleber, H.D. Neuroendocrine findings in chronic cocaine abusers: A preliminary report. *Br J Psychiatry* 147:569-573, 1985a.

Gawin, F.H., and Kleber, H.D. Cocaine use in a treatment population: Patterns and diagnostic distinctions. In: Kozel, N.J., and Adams, E.H., eds. *Cocaine Use in America: Epidemiologic and Clinical Perspectives.* National Institute on Drug Abuse Research Monograph 61. DHHS Pub. No. (ADM)85-1414. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985b. pp. 182-192.

Gawin, F.H., and Kleber, H.D. Abstinence symptomatology and psychiatric diagnosis in cocaine abusers. *Arch Gen Psychiatry* 43:107-113, 1986.

Gay, G.R. Clinical management of acute and chronic cocaine poisoning. *Ann Emerg Med* 11:562-572, 1982.

George, F.R. Cocaine produces low dose locomotor depressant effects in mice. *Psychopharmacology* 99:147-150, 1989.

Gold, M.S.; Dackis, C.A.; Pottash, A.L.C.; Extein, L.; and Washton, A. Cocaine update: From bench to bedside. *Adv Alcohol Subst Abuse* 5:35-60, 1986.

Goldstein, P.J. The drugs–violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1986.

Goldstein, P.J.; Bellucci, P.A.; Spunt, B.J.; Miller, T.; Cortez, N.; Khan, M.; Durrance, R.; and Vega, A. Female drug related involvement in violent episodes. Narcotic and Drug Research, Inc., Report for the New York State Division of Substance Abuse, March 1988.

Hadfield, M.G. Cocaine: Peak time of action on isolation-induced fighting. *Neuropharmacology* 21:711-713, 1982.

Hanson, G.R.; Matsuda, L.A.; and Gibb, J.W. Effects of cocaine on methamphetamine-induced neurochemical changes: Characterization of cocaine as a monoamine uptake blocker. *J Pharmacol Exp Ther* 242:507-513, 1987.

Harruff, R.C.; Francisco, J.T.; Elkins, S.K.; Phillips, A.M.; and Fernandez, G.S. Cocaine and homicide in Memphis and Shelby County: An epidemic of violence. *J Forersic Sci* 33:1231-1237, 1988.

Honer, W.G.; Gerwitz, G.; and Turey, M. Psychosis and violence in cocaine smokers. *Lancet* 2:451, 1987.

Jekel, J.F.; Allen, D.F.; Podlewski, H.; Clarke, N.; Dean-Patterson, S.; and Cartwright, P. Epidemic free-base cocaine abuse: Case study from the Bahamas. *Lancet* 1:459-462, 1986.

Johanson, C.-E., and Fischman, M.W. The pharmacology of cocaine related to its abuse. *Pharmacol Rev* 41:3-52, 1989.

Johnson, T.E.; Lebenow, G.C.; Miller, M.; Gonzalez, D.L.; and Carroll, G. Urban murders: On the rise. *Newsweek*, February 9, 1987. p. 30.

Kantak, K.M. Magnesium alters the potency of cocaine and haloperidol on mouse aggression. *Psychopharmacology* 99:181-188, 1989.

Kozel, N.J., and DuPont, R.L. Trends in drug use and crime and their relationship in an arrested population. *Am J Drug Alcohol Abuse* 4:413-429, 1977.

Lavoie, F.W.; Carter, G.L.; Danzl, D.F.; and Berg, R.L. Emergency department violence in United States teaching hospitals. *Ann Emerg Med* 17:1227-1233, 1988.

Lowenstein, D.H.; Massa, S.M.; Rowbotham, M.C.; Collins, S.D.; McKinney, H.E.; and Simon, R.P. Acute neurologic and psychiatric complications associated with cocaine abuse. *Am J Med* 83:841-846, 1987.

Manschreck, T.C.; Laughery, J.A.; Weinstein, C.C.; Allen, D.; Humblestone, B.; Neville, M.; Podlewski, H.; and Mitra, N. Characteristics of freebase cocaine psychosis. *Yale J Biol Med* 61:115-122, 1988.

Mendelson, J.H.; Teoh, S.K.; Lange, U.; Mello, N.K.; Weiss, R.; Skupny, A.; and Ellingboe, J. Anterior pituitary, adrenal, and gonadal hormones during cocaine withdrawal. *Am J Psychiatry* 145:1094-1098, 1988.

Miczek, K.A. Effects of 1-dopa, *d*-amphetamine and cocaine on intruder-evoked aggression in rats and mice. *Prog Neuro-Psychopharmacol* 1271-1277, 1977.

National Institute on Drug Abuse. *Semiannual Report. Data from the Drug Abuse Warning Network.* Statistical Series G, Number 22. DHHS Pub. No. (ADM)89-1607. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1989.

Post, R.M. Cocaine psychosis: A continuum model. *Am J Psychiatry* 132:225-231, 1975.

Ritz, M.C.; Lamb, R.J.; Goldberg, S.R.; and Kuhar, M.J. Cocaine receptors on dopamine transporters are related to self-administration of cocaine. *Science* 237:1219-1223, 1987.

Roehrich, H., and Gold, M.S. 800-COCAINE: Origin, significance, and findings. *Yale J Biol Med* 61:149-155, 1988.

Roth, D.; Alarcon, F.J.; Fernandez, J.A.; Preston, R.A.; and Bourgoignie, J.J. Acute rhabdomyolysis associated with cocaine intoxication. *N Engl J Med* 319:673-677, 1988.

Sato, M. Acute exacerbation of methamphetamine psychosis and lasting dopamine supersensitivity—a clinical survey. *Psychopharmacol Bull* 22:751-756, 1986.

Seiden, L.S. Methamphetamine: Toxicity to dopaminergic neurons. In: Brown, R.F., and Friedman, D.F., eds. *Neuroscience Methods in Drug Abuse Research.* National Institute on Drug Abuse Research Monograph 62. DHHS Pub. No. (ADM)85-1415. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985. pp. 100-116.

Sherer, M.A.; Kumor, K.M.; and Jaffe, J.H. Effects of intravenous cocaine are partially attenuated by haloperidol. *Psychiatry Res* 27:117-125, 1989.

Wetli, C.V., and Fishbain, D.A. Cocaine-induced psychosis and sudden death in recreational cocaine users. *J Forensic Sci* 30:873-880, 1985.

Wyatt, R.J.; Karoum, F.; Suddath, R.; and Fawcett, R. Persistently decreased brain dopamine levels and cocaine. *JAMA* 259:2996, 1988.

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The Operational Styles of Crack Houses in Detroit

Tom Mieczkowski

INTRODUCTION

This chapter describes data from a study that examined the principles of management and organization in typical crack-house operations in Detroit, MI. These methods involve explicit violence, such as the use of firearms, beatings, and intimidation, as a part of the operational procedure of the crack house. The crack house exhibits implicit violence as well in the nature of the social interactions between clients and sellers and between clients themselves. The chapter also focuses on placing the operational techniques established in crack houses within the larger historical context of drug dealing. Thus, periodically, this chapter will refer to the street sales literature based on heroin as the drug of choice. It is not our intent to uncritically equate heroin selling with crack selling, nor is it within the scope of this chapter to explore all the complex contrasts and similarities between a generic approach to street hustling and the qualifications of that approach for each specific drug type. Based on research over the last decade, however, it is evident that the broad set of dynamics that constitute "hustling" as an aspect of street life, drug use, and drug sales is applicable, in some degree at least, to crack retailing. Furthermore, historic models developed with data based on heroin selling operations should not be a priori excluded as invalid.

Because the generalized concept of the distribution of cocaine involves a complex set of actions and actors, the data presented will be limited to describing street-level sales; the manner by which sellers and users effectively accomplish exchanges within their own locales; and the utilization of violence to accomplish and facilitate these ends. Descriptions will concentrate on the "street scene" or lowest end retail activities associated with the network of drug distribution.

LITERATURE REVIEW

The "street" conception of drug distribution has been developed in the literature for several decades. Studying street sellers of drugs is originally associated with the work of Edward Preble (Preble and Casey 1969). In recent years, this level of sales has been explored by Redlinger (1975), Caplowitz (1976), Wepner (1977), Johnson et al. (1985), Mieczkowski (1986), Pearson (1987), and a host of other criminologists, anthropologists, and behavioral scientists. Although explicit discussions of crack selling and data derived from research on crack sales activities are quite rare, a small amount of work has been done. Inciardi, for example, has surveyed street people in Miami, FL, and has presented some data about their involvement with crack selling (Inciardi 1986; Inciardi, this volume). Also, the interplay between economic management, drug abuse, street life, and violent behavior has been explored by Goldstein (1981), as well as Nurco et al. (1985). Another related work is Hanson and colleagues' *Life with Heroin*, which is an elaboration on these themes within the heroin subculture (Hanson et al. 1985). The present work continues in this direction by developing descriptions of social behavior of street crack sellers.

The "street scene" in drug sales and use refers to a loosely structured social system by which retail consumers of drugs are supplied with low-cost, small dose increments of illicit substances. It is an active, transient, and improvised market place that takes on a diverse situational character. In Detroit, the street level of drug sales has three general dimensions.

1. Street Sales. Street sales are the open-air, sidewalk, or roadway sales of small retail quantities of drugs to walk-up or drive-up customers. There is no required prior conspiracy or consultation between buyer and seller. Relatively recent descriptions of this system are in Geberth (1978), Mieczkowski (1986), Hanson et al. (1985), and Hagedorn (1988). This technique frequently represents the least sophisticated method of distribution.

2. Runners and Beepermen. This system involves elements of prior consultation or interaction between buyer and seller. The buyer may enter into that interaction directly, or the buyer may utilize an intermediary who may have prior relationships with a seller. Runners act as sales agents for the primary retailer. The term "runner" may also connote an intermediary (touter) who retrieves drugs for a consumer and receives, in terms of reward, a portion of the drugs secured for the end user. A beeperman is a retail seller who distributes by prior telephone consultation with a consumer. The term is used because the prior consultation occurs by telephone and is initiated by contact with a phone pager, or "beeper." Typically, the beeperman may rendezvous at an agreed locale with the consumer, deliver the contraband to a home or office, or require the consumer to come to a particular place to receive the drugs.

Beepers, being widely available at low cost, have become increasingly popular mechanisms for drug sales. The mere possession of a beeper, for example, may elevate one's status in street culture—differentiating one from a "street seller" or "corner boy."

3. The Crack House. The crack house represents a third method of retail marketing. Its most distinctive feature is the use of a fixed and secured locale, to which report all manner of customers. It operates in various modes or styles, which will be described in some detail in this chapter. The crack house's relative permanence distinguishes it in comparison to the first two techniques, which are transient methods.

METHODOLOGY

The data are derived from the Detroit Crack Ethnography Project (DCEP) funded by the Bureau of Justice Assistance (grant number OJP-88-M 39J). The data for this chapter comes from interview transcripts with 100 self-reported dealers and user–dealers of crack cocaine. The informants, who were clients at a treatment facility, were interviewed anonymously. They responded to a structured questionnaire and were encouraged to report, in an open-ended, anecdotal manner, their experiences on the street with crack cocaine. The objective of the project was to develop a descriptive data base of user–dealer experiences and to establish what the apparent broad parameters and dimensions of crack selling are among this particular group of treatment clients. Although the data are not confined to crack-house operations, that component of the study will be the focus of this chapter.

The data on the DCEP group consist of two separate components. One component is a compilation of the interview transcripts with the 100 self-reported dealers and user–dealers of crack cocaine. The informants, clients at a treatment facility, were chosen by examination of the screening intake reports, to determine which clients had significant crack cocaine involvement in their history. These clients were approached by the staff supervisor and asked if they would be interested in volunteering for an interview. If they expressed an interest, they were asked to sign an informed consent form, and an interview was scheduled. All volunteers, after appearing at the interview site, were then told that they would receive a $25 stipend for participating in the study. The interviews were tape-recorded, and, from these tape recordings, transcripts were generated. The interviews consisted of anecdotal, open-ended discussion and a structured questionnaire. In addition to the text data, there is the summary report of responses to the questionnaire. Both the questionnaire and the open-ended discussions were directed at the informant's experiences on the street with crack cocaine.

FINDINGS

The Preferences of Crack Purchasers

Figure 1 represents the purchase preferences individuals in the DCEP sample expressed in buying crack cocaine. By a wide margin, the crack house was the method most typically used to make purchases. The runner or beeperman was the second most popular choice. A significant number of participants reported, not surprisingly, a mixed set of preferences depending on situational availability of crack. However, with 35 respondents reporting the crack house as the purchase place, and 36 reporting crack houses plus one or more of the alternative mechanisms as the purchase place, 71 informants relied in whole or in part on crack houses for their supply.

As noted, figure 1 shows that the method of purchase is primarily the crack house. Of the respondents, 35 named this as their most prevalent purchase style, followed by 21 who relied upon a touter or beeperman, who delivered the contraband to them. This delivery was variably reported as "home service," i.e., delivery to their residence, or a delivery by rendezvous in a commonly agreed public locale. A frequently reported site was the parking lot of a local fast-food restaurant. Interestingly, discrete exchanges in highly public places were viewed as more secure than covert locales. Figure 1 also shows that 14 respondents reported using both crack houses and beepermen. Only four respondents identified the street as their exclusive source for crack. Overt street sales of crack do not seem to have achieved the prominence and popularity that street sales of heroin had reached in Detroit at the end of the 1970s (Mieczkowski 1986).

Respondents often reported that crack sold on the street was very poor quality and that street transactions were the least secure. One was more likely to get "burned" on the street because vendors, having no fixed locale, could not be held accountable for their merchandise. Also, respondents reported that a reliance on street crack was typical of extreme stages of compulsive use. In effect, one was "reduced" to buying from the street as the craving for crack increased. This was because using other sources required some measure of gratification delay and discipline. In essence, it takes time and effort to "rock up" powder cocaine. Thus street transactions were stigmatized, being associated with "fiending" or acute crack binging. One result is that the fixed-locale crack house has become preeminent as a distribution device in Detroit.

Operational Techniques of Crack Sellers

Results from ethnographic observations on the different modes of operations in the crack distribution network indicate differences in selling techniques among the competing alternatives. Excerpts from some of the dialogue conducted with the study's subjects provide vivid documentation of their selling

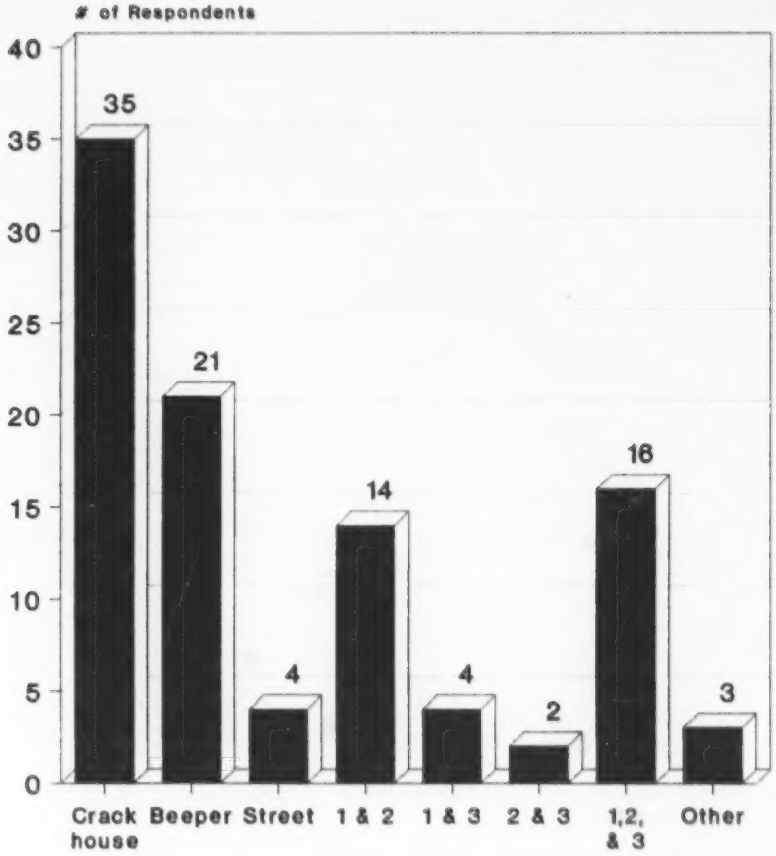

FIGURE 1. *Crack buying patterns*

activities and related behavior. First to be examined are the selling activities of the open-air street sellers, then runners and beepermen, and, last, the crack-house drug dealer. Phonetic spelling is used in recording the spoken word to preserve the flavor of the street argot. In the following sequences, the activities of the beeperman, the street seller, and a hybrid seller, who mixed street and fixed-locale sales, are presented. Following each excerpt is a brief commentary.

Sales Using the Beeper. As mentioned earlier, selling with the beeper was the second most popular method utilized by the study subjects to buy crack. The following excerpts provide some insight on this mode of operation and why it is popular among crack sellers. (R=researcher, I=informant)

Interview 8: The Beeperman. (22 years old, black, male, ex-convict, assault)

R: What situation did you sell crack in?

I: As far as the coke, it was like you could sell off the beeper. You know, we was sellin' off beepers. Just call on the beeper, and we call you back and meet you somewhere or the runner somewhere 'cause they be comin' so fast, you know.

R: How much were you selling? What quantities?

I: I was sellin five pound . . . didn't too many people call me but as far as the small amounts, you know, I had people workin' for me then when I started sellin' coke.

R: How did you control your guys?

I: Basically I just had about three guys workin' with me, you know. I would just pick up the money. I wouldn't trust . . . and I had a lieutenant, and he would just drop it off, you know. My lieutenant would take the powder and sell it and report to me, and when he's finished sellin' his sack, he would call me, and I'd have the other guy bring him some more, and he'd drop the money off. Working outta house and on street corners.

R: Did you worry about ripoffs?

I: I didn't have to worry about it. The guys workin' for me had to worry about that. If my dope came up missin', they had to suffer the consequences. But they would be armed and ready for the situation.

R: Would you sell to anybody?

I: No, I'd definitely have to know you. I screened my customers. If I don't know you, they can't sell you none.

R: So you wouldn't sell anybody, say, an ounce just 'cause they call you up on the phone and say they want it?

I: Right. It would already be packed up when they get it. The lieutenant packed it up for them. I didn't have to touch the dope at all, you know. My lieutenant would cop the dope, get the dope, you know, and hook it up.

R: How much money were you making? Say, weekly?

I: Five grand. Me I was makin' like, uh, off the powder, if I sold, uh, it depends on how much I had. I could get a ounce—I used to get a ounce for $500, but these days an ounce would cost me $700 to $800. I would step on the 'caine little bit I would cut it . . . right.

R: What kind of cut did you use?

I: Benzocaine, hicaine, get it right in the store, buy it right out the store. Cost about $60, $75.

R: What kind of store?

I: Party stores, you know.

R: What kind of profit did you expect to make on an ounce?

I: I would want at least a grand.

R: And your lieutenant breaks the ounce down into eightballs?

I: Yeah, and whatever he makes off his, that his, long as he brings what I want. Now if he brings me a key (kilo) and wants to sell a gram, ok, and he break it down and, uh, give it to the rollers and then pay them, far as he work that out how he gonna pay them, that was his business. He might make more money than me, depends on what type of money they workin' for, but that was his business.

R: Could you front, say, two pounds?

I: I wadn't that far ahead you know. I could like get a half a key or somethin like that.

R: How were your connections made?

I: 'Cause I had knew a lotta big time dope men by bein' round my father, you know, but he didn't know that I had kept in contact with 'em you know. Go talk to 'em and get what I want.

There are several interesting features in this dialogue. One is the clear hierarchical organization of the system. This organization has important economic benefits to a beeperman who controls many runners or underlings. This dialogue also illustrates the use of a merchandise consignment technique for distributing crack. It permits entry into distribution processes by those who are willing to sell but lack sufficient initial capital to start a venture of their own. Control is based on a mixture of faith and fear, a characteristic reported in other research on street syndicates (Goldstein 1981). It is the need to establish this atmosphere that serves as an entreé for violent behavior. Fear comes from the anticipation of violence as an outcome of social interaction. The utilization of "cut" is an important point of information. The use of cut permits great enhancement of profitability. Processing powder cocaine into "rock" makes cutting it a somewhat more complex process for crack dealers. Cut must react in a proper fashion with sodium bicarbonate to form a rock and cannot simply mimic the physical appearance of the substance it is designed to expand.

Sales on the Street. The following excerpt captures the quality of street life and a walk-up crack distribution technique. Not only were this informant's activities quite literally on the street, but the varieties of activity, including pimping and the reference to other activities, are interesting as well. The apparent volatility of operations demonstrates what Preble and Casey (1969) so aptly identified as the dynamics and risks the street hustler encountered in "taking care of business." It also shows the nature of violence, the method by which it is used with deliberation, and even the ironic reality that a dealer can be thankful to his violent adversary, demonstrating a kind of street chivalry when business interests come into conflict. It also amply demonstrates the faith–fear complex and the role of violence in that complex.

Interview 13: The Street Seller. (27 years old, black, male, ex-convict, homicide)

I: We had a thing where we didn't like guys gettin' into our little organization, findin' out everythin' 'bout where we go get our stuff at, you know. Just knowin' everythin' about us and then gettin' out, you know. And me and the guy had talked about this; we was like the ground floor of the organization. And as we went up, you know, we still were at the top. I was ready to go. It was personality conflicts, you know. One night I'm up on Woodward in Highland Park doin' my business, you know. They still doin' they business, you know, they watch me pick up money and stuff. I was sellin' off a beeper then and, uh, they decide well I got enough money for 'em to rob tonight, you know. Which I didn't have but a couple hundred dollars, you know. I had met a young lady also that was whorin' out on the street, sellin' her body, so I was doin' that too. I was also watchin' her. And, uh, you know it was like

we was all into all of that, you know. This is before women was sellin' they bodies for crack, you know. It was strictly for the money. He had his women up there too. And it was like I had took my car and when I broke away from 'em I also cut 'em short on transportation too, cause we was rentin' cars. But I had a car also and that car that I had was for our other activities besides doin' drugs. And so they felt in a lotta ways I left 'em hangin'. But they had asked me for a ride back over to the joint, but before we got there, the guy that I was in prison with asked me to drop him off somewhere, right. So I stopped and let him out the car, but his friend is still in the front seat. And when he get out the other guy pulled a pistol on me, you know, sayin' "you know what time it is, right?" But all along he had been tellin' me, and I wasn't goin' for it. I looked at him and I said "Man, I want to talk to you. You know this is the guy . . . " and I go to get out my car, and he shot me in the back up under my shoulder blade with a .25. It punctured my lung, ricocheted off my rib cage, and it's in front of my spine. It surprises me 'cause, personally, I have killed and I know. I'm not tryin' to brag or nothin' like that, but I am a killer. If I shoot you I'm 'unna kill you, you know. I figured he just didn't want to kill me, 'cause from what he was tellin' me, was just don't come back to Highland Park. It was just a warnin' to run me out of Highland Park cause my legs was outside of the car. He put me back in the car, took my money, he coulda killed me, he coulda killed me but he didn't. I'm thankful for that.

The Combination of Street and House Sales. The following interview includes dialogue from an informant who worked both the street and a fixed locale. It reveals the power of entrepreneurial drive, risk-taking behavior, and desire to develop individual nonmonetary assets by a neighborhood person recruited into an organization of crack sellers. Note the importance of violence in interview 12. Clearly the informant's capabilities in this regard played a central role in his introduction into and utility for the organization that supplied him with crack.

Interview 12: The Street Seller. (27 years old, black, male, no criminal record)

I: I come against this, uh, this gang . . . called Fony Crew, you know. And, uh, I had came back and they needed me around the neighborhood anyway, 'cause I always liked to fight. I always liked to go in a disco and start a fight or end up with a fight and come out on top.

R: So you had a tough reputation on the street?

I: Yes. So next thing I know I was with 'em. I raised up with 'em, so we went to gettin' together. First they wouldn't show me no lotta dope, you know. It was like they was bringin' me packs.

R: And you sold for these guys?

I: Yes.

R: On the street?

I: Yes.

R: To cars driving by?

I: Naw, not like that. It was like, uh, I'd let people or either I go down on the corner from my mother and sell it or outta an old man's house that used, you know, 'cause I useta jist feed it to him. I be in his basement and they'd jist come to his back door and knock and he . . . they'd knock on the door and he'd let em in and they'd come down.

R: You were selling heroin too?

I: I was sellin' that mix, you know, mix jive . . . sellin' this hairon mixed in with the rest of the stuff. So I had both the powders, you know, and they came down and used to get it and leave right out. Because when I was gettin' high, you know, the guy was givin' to me. They was so big that me and the old man used to jist cut 'em in half and give 'em half for the money that they come in with. And me and him would smoke the other half. Didn't cost us nothin' and the money was right.

R: How did the organization pay you?

I: They was tryin to pay me, uh, like tops, you know . . . so it got to a point that I was tellin' 'em that I wanted to get paid more so I kept what I wanted.

R: What kind of money could you make in a day?

I: $50. That wadn't nothin'.

R: Nobody tried messing with you? The organization let you hold back money?

I: I wadn't worried about, you know, like I come up $10 or $15 short, you know. Then I ain't got to worry 'bout 'em jumpin' on me,

you know, 'cause they knew where I was and what state of mind I was then, you know. Wadn't worried about nothin', you know, was somebody jumped on me they knew where I'd get back with 'em. Either they know if they jumped on me they'd had to kill me, so my reputation was all right far as bein' in there. So I end up, you know, backed up.

Interview 12 reveals an interesting combination of dynamics. One is that a street seller with ambition may do well in building on a business opportunity. This informant is a person who capitalized on the simple skills of street toughness in two ways. First, his reputation for aggressive behavior and ability to control aspects of the neighborhood were impressive to a distribution organization, providing him an entry point to larger scale activity without the need for initial money for investment. Second, his ability to seize and control a selling facility illustrates a technique frequently reported in this study; namely, the occupation of dwellings and conversion of them, through a process of bribery with drugs and intimidation, into crack houses. This excerpt also reveals that distributing organizations do recruit locals to move selling operations into neighborhoods. The individual in this case worked initially for "tops." Tops are a flat dollar amount or percent of the sales price of retail units. In Detroit, it represents the lowest level entrepreneurial sales reward system. It is an important element in the distribution mechanism because, for many relatively impoverished entry-level personnel, it is the initial contact with profit as a by-product of sales volume. Thus, this technique rewards the ambitious and serves as a strong motivator to enhance further entrepreneurial activity. It reinforces the common belief that wealth and riches are tied to developing one's own network of sellers. This strategy permits recruitment of workers through merchandise consignment. It eliminates the need for entrants to assume high initial front-end costs in joining an organization. This can, over a period of a year or two, be quite rewarding financially to all the operatives involved. Although not evident in this excerpt, Informant 12 eventually went on to become an important courier for his organization, transporting several hundred thousand dollars worth of cocaine from Florida to Michigan. He was ultimately indicted and arrested by Federal authorities and served several years in Federal prison as a consequence of these activities. He transited, however, a rather spectacular financial terrain in a short period of time.

The Crack House. The social situations in which crack houses operate and the techniques used to establish them are also documented by the interviews. Crack houses vary in the practices and activities that occur within them. They also differ in the methods by which a seller establishes and manages them. Examining the DCEP reports reveals some aspects about these variances and some common attributes experienced by people who either purchased, worked in, managed, or operated crack houses.

Crack house operational styles can be considered along a polarity. At one end are crack houses characterized as "austere" in their basic managerial methods. By this term, we mean that the interaction between customer and seller or staff of sellers, which is the common case, is purely instrumental and minimal. The major characteristic of such an operation is its minimalization of the seller–buyer interaction. Physically, such locales have a "fortification" approach in securing the selling station, including at times complete isolation of the vendor from customer. Virtual isolation is realized by a pass-through sales technique. No face-to-face encounters occur. Such locales rely on "hardening" the sales site by using barred windows and doors, bricking up of windows, or boarding up with plywood all security-risk access to the structure. Interaction for selling purposes is done through a literal slot or hole, with money being passed in and crack being passed out. It would be fair to say that these types of operations exhibit severe economy in social interaction.

Interview 49 is excerpted from the dialogue of a female informant who describes her experiences at several crack houses. These descriptions show a somewhat ambiguous mixture of austerity and severity of social interaction along with a "tavern culture" set of social interactions. This excerpt also demonstrates the type of violence that customers undergo and are always at risk when making crack purchases. This type of violence is predatory and illustrates one of the functional consequences that arise from selling drugs at a fixed locale.

Interview 49: Crack House. (25 years old, black, female, no criminal record)

R: What was the scene like where you bought?

I: He had took me to a couple of places over by my mom's house. Some of 'em was like houses, some of 'em was like vacant buildings that you didn't think nobody stayed there, and this one place he introduced me to, it was like somethin, like a joint but you had to go around the alley and come in through the back. And it was real dark back there, and there'd be a lotta guys hanging out around there in case they short or somethin' and they catch a woman comin' back there; they figure she's easy prey, you know. You just take her money from her, 'cause that happened to me one night. I went back there with this guy, and we didn't see the guy at first, so we stuck our money up to the window. Then he put somethin' up to my forehead and told him if he didn't give him his money that he would kill both of us tonight. And I was so scared I had dropped everythin' 'cause he had us to strip. And I told him I didn't have no money nowhere else besides what I had in my hand. It was only $10, and I dropped it on the ground, and he picked it up and he left, and I just left and went home. And I didn't never

go back to that spot anymore. A couple of places that sold, guys that I had grew up with and I knew 'em, you know, a little better than just goin' to one and they just opened it up and you don't know 'em. Lotta people just sittin' around gettin' high. And then they see you comin' in and be done bought somethin', and they hurry up and try to smoke theirs up, figurin' they can come over there and beg you outta yours. Sometime they got a situation where they felt like they would just come and take it and then you be murdered.

The informant in interview 49 was victimized by loiterers circulating in the vicinity of the crack house. Such loitering is a natural outcome of the crack house's relatively open public access. To attain a substantial volume of sales, operators must tolerate public circulation of customers. A by-product of this, however, is that crack houses attract predators who can victimize customers for either cash or drugs. Further, violent threats and the ensuing fear associated with possible violent victimization do not come exclusively from strangers or other customers loitering in or about the crack house. The operators of the crack houses themselves cannot necessarily be trusted. This is especially true if the house is staffed by strangers to the neighborhood, particularly "hired hands" who receive only a small and limited share of the operation's profit. Syndicate operators were motivated to place strangers into neighborhoods to forestall conspiracy between neighborhood companions. The following excerpt illustrates this.

Interview 70: Crack House. (32 years old, black, male, no criminal record)

I: It went pretty smooth for about a month. I was working in the house, and when he left me that's when I started getting slick and taking the bags, opening them up, and cutting little pieces off of to making them a little smaller so you couldn't tell, and make my own bunch for my use and sales. The house had iron-armor-guard doors with only one door, because he was on the third floor and usually I would peep out the peephole with a double barrel shotgun and that was basically it. And you were served through the iron door. No one came in. Money in, crack out, and close the door. I never had any problems because if I didn't know the person, I would say "Nothing's happening. I don't know what you are talking about."

R: Did you have any guys on the street steering people to you?

I: There were a couple guys living in the apartment building. And if they had friends or someone that they wanted to get for, I would let them come up and get it. But they better not bring anyone else up there. For them bringing in the extra money, we would cut them a piece or give them something extra too. I was high while I work.

SS

When I first started out, I was getting $2 off of every $12 pack, which we called "tops," which were $10 rocks. On a good day for 3 hours, maybe about $700. The sack that I was left with was worth about $200. I would call him to replenish the stock, sometimes before the hour was up. He never left a bigger stash than that because I did actually run away with a bag at one time towards the end.

This informant's dialogue represents a typical austere crack operation, utilizing a common method of touting or "steering" to enhance sales. It also demonstrates a technique first reported by Mieczkowski (1986) in the heroin trade, that of "pinching," i.e., the covert removal by a low-level worker of small amounts of contraband from each retail unit. Such pinched material then is either sold for profit by the low-level worker or used for personal consumption. In this case, it was possible because the boss of the operation was not in the immediate sight of the workers. In all street drug-dealing operations, security concerns about customers, rip-off artists, employees, and others play a major role in dealer behaviors and risks for violence. Occasionally, operators resort to rather extreme measures, including literal imprisonment of staff. Consider the case illustrated in interview 72.

Interview 72: Crack House. (32 years old, black, male, ex-convict, robbery)

I: When we first moved over there in Highland Park we were just smoking. I got into dealing one day when I was at the store, and I met this man that knew, I was trying to cop. I asked him for 3 dimes 'cause I had $30. I had been seeing him at the store, so I knew I could talk to him. I found out about this joint that had closed up because the squeeze had been put on them. I decided that I was going to open it up. I asked this guy if I got some dope, "would you work in the joint for me?" I told him that I would put up $200 worth of drugs for it. I got this joint, and put a big old padlock on the door where you could stick the key in from the inside and get out. So the guy was locked in with the dope and I was the only one that could get in 'cause I had a key too. I gave the guy a hammer to protect himself. At that time I was trying to figure out a way to get some money. He had $1,000 worth of rocks (500 rocks). I got the idea from a guy in the joint that I was with. The rule was no smoking in the house. Just come up to the door, throw your money in, you get your rock and you take off. The only way he could get out in a hurry was through a window. He was nailed into the kitchen and working out of the back door and couldn't get into the rest of the place. We made good money. We pulled maybe a thousand and a half rocks in maybe 24 hours.

Interview 72 illustrates a response to security concerns by site hardening. In this case, the informant reported elaborate work done on the structure that not only isolated the actual seller from the customer by locking the doorway with a chain, but also made it impossible for a person to get to the seller by breaking into part of the house other than the door aperture where the selling was actually taking place. In this situation, the crack-house boss sealed off the kitchen area by building a reinforced wall segregating the kitchen from the remainder of the house, anticipating that robbers might try breaking and entering through another portal.

One popular locale for selling crack is in older apartment buildings with large foyers, entrances, or commons. Such public spaces provide an arena for sales transactions that, while being sheltered from open public view, allow indoor transactions without the requirement of admitting customers into a dwelling unit itself. Interview 85 describes such a strategic arrangement.

Interview 85: Crack House. (27 years old, black, male, no criminal record)

I: I started selling it with my sister. I moved in with her. She had the clientele built up. She stop selling, so I moved in and picked up her clientele. I rocked up the crack myself and got a buddy to work for me to rock it up, 'cause I didn't know how to do it that good. He eventually moved in and watched my back. By that time I learned how to rock myself so I really didn't need him 'cause I was doing everything myself.

R: You ever have any problems?

I: Noa, I never did. My friends that I grew up with could come in and smoke and otherwise it was business, they come, get it, and gone. I had guns to protect myself and my buddy would stand at the top of the stairs to watch my back. My transactions would happen in the building, not in the apartment. Plus I would come down with the pistol in my hand.

R: What about the other people in the apartment building?

I: There were a lot of young people in the building and the lady across the hall started complaining, 'cause of the doors opening and closing all night. I think we were being watched, too. Business was doing good, tradin' dope for goods. I got a beeper too, but I never got a chance to turn it on, but I played the role whereas I would walk down the stairs with one on, showing them that I was progressing and moving up. My baby sister was still staying there, and I got a beeper for her from somebody off the street. It wasn't

turnt on but we would push the button where it would start beepin'. I was making big money but I was using big too.

This report is notable in that it represents the use of a certain type of housing unit for situating the crack sales operation. A large apartment complex of old vintage typically has a larger foyer area. The informant in interview 85 used this as the actual transaction point. The isolation of the customer from the seller was not as complete as a pass-through operation, but denied customers access to the seller's apartment itself (where the cash and crack in bulk was kept). Security was established by one operator covering the other with a weapon from a distance. Additionally, the seller appeared armed to conduct the transaction. This seller was willing to trade crack for goods and materials as a barter operation, a characteristic that is reported at other crack-house operations, most commonly what we will identify later as "tavern culture" houses. The symbolic value of the functionless beeper is also noteworthy, as is the concern with impressions that such symbols are believed to make upon others.

Controlling the use of drugs by operating staff in a crack house is an important managerial issue. There is substantial variation of norms regarding what is good management policy. One concern of operators is that people who use crack cannot effectively sell it or be trustworthy in handling it. Yet those most willing to work are often motivated by a desire to obtain drugs for their own use. Although some staff can be recruited who are motivated purely by the desire to make cash income, crack houses are not always operated by profit-oriented users. User–dealers may also be recruited for staff. Management may forbid any on-the-job crack use, but be indifferent to off-time use. Other managers dismiss any crack-using staff. Others permit continuous use and pay wages in crack itself, which the staff member may either keep and use or sell for profit. Interview 94 illustrates some of this variation and also reveals that workers within crack houses often work only to get high by varying receipt of wages in the form of drugs or cash.

Interview 94: Crack House. (21 years old, black, female, no criminal record)

I: I sold crack for a guy and sold it in a dope house. There would be a person at the front door, a person at the window with a gun and you come to the side door or window. And I would be there and sell the crack. The customer stayed outside. You pass through the window. The money comes in first and then the crack goes out. I was paid $10 off of every $50. I would make about $80 to $100 a day. I took it in cash and spent it on rock, so eventually we took it in rock. We really didn't make no money. I was just working to get high. Some crack houses I worked in paid $75 a day and some gave you $1 off of every $10.

Of course, if staff are users and are intoxicated while operating a house, then security issues are compounded. Aside from the risk that the staff themselves may "smoke up the stash," most managers would argue that an intoxicated staff is more vulnerable to predators. Isolation and security become even more critical. Thus, in situations in which the staff is permitted or known to use or is suspected of use, management may make extraordinary efforts at isolation. The technique of achieving secure isolation from the customer can result in creative and ingenious methodologies. Interviews 90 and 52 demonstrate such inventiveness. The informant in interview 90 described an operation that involved passing a basket down from a second-story balcony. In the excerpt taken from interview 52, a variation on this technique is described.

Interview 90: Crack House. (26 years old, black, male, no criminal record)

I: When I got my check, I'd cash it. And instead of going home I would make a stop at the crack house and never made it back home until I was busted. The scene in the crack houses was a place that stolen TVs were brought to get crack. People would come in and sometimes be a dollar short and maybe the dealer would let him go. There would be about three or four that hung there all the time walking around with guns on, busted toilets, and so forth. Women would come in there and go in separate rooms and give johns $4 or $5 worth. I have been in there when some have pulled guns on guys, but I have never been involved in anything.

R: How did you get involved in selling?

I: I was looking at the profit that people were making. I did it for a couple of months and something told me that I didn't want to get involved in that. I decided that that is not for me and slowly backed out of it. The first time me and another guy talked about getting our own thing going and stuff was 'cause he knew a female that had a house. I did it and he ran the show because I was working at night. My partner made the connection and he ran the show. I gave him $100 and he bought a eightball and he rocked it up. In running the crack house, you just sit there and wait to somebody knock on the door in the house. The owner was there with us. A couple more guys that worked for us was there too. We sat up there with guns. We got word out through her 'cause she was smokin' herself. We would give her so much and something to smoke and she would put the word out. We sold $10 rocks. When I left out of it, they were still selling. We never had any violence from selling it. Those that came to buy I knew or he knew. We wouldn't let them—the buyers—in. We had a little hook up in the back where you lower down a string with a basket

on it and they put the money in it and we would pull it up and put some crack back in there and lower it to them. We only let those we knew smoke in the house.

Interview 52: Crack House. (25 years old, black, male, no criminal record)

I: Sometimes they would smoke and sometime they wouldn't because, you know, I didn't trust a lot of people, you know. 'Cause they might try to rob me, and so I wouldn't let them in. I'd just go to the balcony and throw a shoe down. They put the money in the shoe and throw it back up, and I'd put the stuff in.

The Use of Occupied Dwellings and Structures

Many informants reported operating out of occupied dwellings, using only a portion of the structure to sell. Often such vendors operated out of basements, paying a fee or rent to the legal tenants. Often vendors were able to establish these arrangements with occupants who were crack users. They would gladly accept crack as rent for the use of their habitat. For some it also represented a real convenience to have the drug vendor on the immediate premises. Thus, sites could be obtained relatively easily and for little initial cost. Furthermore, the attraction for a tenant in permitting street dealers to "set up shop" or "hook up" in their apartments or homes could also come from parallel benefits associated with the scene typical of social or tavern-style crack houses. In austere houses, money and drugs were the only commodities available. But in a crack house that permitted entry and lingering to occur, other social benefits were also available. For male tenants, sex was one benefit prominently mentioned. Interviews 74 and 78 are illustrative of this occurrence.

Interview 74: Crack House. (30 years old, black, male, no criminal record)

I: Now I done got into a house. What you do is find a person that is on crack that will let you sell crack out of their house in order to get more crack. All you need say is that you are looking to rent out somebody house to sell crack and 9 times out of 10 someone will come to you.

So, having set up in somebody house now, I'm working under his system now selling from his house. I did this 'cause I didn't have the backup that I needed, no protection. I could have went on and recruited but I was the type of dude that I never really could take the front lead. Then I started dealing with the police and I said let somebody else take the heat and I will work for anybody that is making money.

Interview 78: Crack House. (27 years old, black, male, no criminal record)

I: There were about seven or eight guys working with me in the same house. This lady that let us use her house is a crack head so all we had to do is give her some and you can do anything. Over there they were getting ready to tear down most of them houses anyway, so we gave her something like $20 cash and a $20 rock a day.

Likewise, Interview 51, which follows, reveals a similar line of thought. Here, however, one notes that the dangers of open street sales are also mentioned, indicating that crack houses permit more secure operations than open street vending. This interview also demonstrates a theme that appears throughout the interviews, that prestige is an important element in the thinking of young entrepreneurs. Setting up a house represents a step up in esteem over the career of street sales.

Interview 51: Crack House. (37 years old, black, male, public order offender)

I: A partner and I we used to always go to this one place to cop from. And we got to talking one day, you know, like we're spending on the average, like, say from the time we get up 'til the end of the day we might spend $100. And like we were buying a $1 capsule, where you could get twice as much for $60 as we could get between the two of us for a $100 cap. Matter of fact it was a half a quart $60. So we bought a half quart and capped it up and we tooted what we wanted and sold the rest.

R: Where? On the street?

I: No. This girl I was going with she had a house and we was selling it from her house. At that time selling it out in the streets wasn't the in thing, it was real dangerous at that time to do it that way. And then we were off into peer pressure with the guns and whatnot to habit a dope house, you know. Running it was like, you know, you set up a business.

R: How did you set it up?

I: Well the girl had the house so it was up to me to talk her into allowing us to do it, which was easy. All I had to do was give her some. I told her that we was going to start selling from her house, she said it was OK.

This exploitation of crack-using home owners or renters at times results in serious, unanticipated violent consequences for the occupants. Agreements typically begin with the dealers wanting to "just use the basement" or to operate only out of the kitchen. Tenants who had entered into such arrangements reported that after achieving a foothold in a section of a house, crack gangs or crews would usually continuously encroach upon the property. This was done until they came to dominate it entirely, periodically running off the original occupant altogether. In one case, an informant who stayed on after such encroachment (he was ultimately restricted to one bedroom in the back of his house) awoke one morning to find the house abandoned except for the dead body of one teenage vendor. He was not only taken into custody by the police and threatened with a homicide charge, but was eventually severely beaten and left for dead by associates of the murdered seller. The crack syndicate believed he had been responsible for "setting up" the house for a robbery by rivals.

Interview 69: Crack House. (33 years old, black, male, ex-convict, assault)

I: I was 30 when I first tried crack. When I moved them into the house, they were trying to get me on to the crack to keep the money in their pocket. But what happened was, I wasn't big on it, but the women was pursuing the crack and then by them saying that they wanted to do sexual favors or whatever. I ended up using the crack with them. First time I smoked a rock was with the fellows in the house. I didn't get high the first time, it took me about 2 months before I started feeling the high. The women cuddled me and eventually I started experiencing the high like it was supposed to.

Eventually, the guys with the crack moved the heroin guys out due to demand. By me adapting to crack, I started leaning toward the crack guys and that is all they needed to push the other guys out. I got everything I thought I wanted then, more money—$200—per week, but I was my own best customer. I used the girls to drown my sorrows with my wife. It started off good and then the guys wanted to take my house over and I didn't have any say-so, the more I got addicted to the drugs. I got in contact with the guys first by them walking up on my porch and approaching me. That went on for about 30 days and then it started to get wild. The young guys would have their crowd of people come by. The police got involved because my house was a hangout. There wasn't much that I could do about it because I was caught up in my addiction.

One night me and this girl planned to get together. She told me to pick up something, so I took about $100 worth off of my pay. Went down there and was suppose to spend the night with her. I

> stayed until about 2:00 in the morning with her and decided to go back home. I was basically up for 24 hours and went home and went to bed. The next morning I woke up to where somebody had come into the house while I was sleeping and killed this young guy. They left me in the house alive, they missed me. They beat this kid with a baseball bat and robbed him. I woke up and found him dead and called the police. And they took me downtown and kept me overnight and had me under investigation for murder. They discovered that the guy was killed during the time that I wasn't there. The guys that he was affiliated with thought I did it. I tried to contact them when I got out to find out what happened. I got attacked, they thinking I'm the one that had killed him and they leave me for dead. I woke up 3 days later in the hospital. I had been on the street for 2 or 3 days. Homicide knew I knew more than I did, which I did. After I got the —— beat out of me the cops come back to me to tell them what I knew. I came up with some distorted story. I didn't know which way to go. I called the police back and told them that I would give them the names of the guys if they gave me protection. They said only if we get a conviction. I knew I was a dead man and disappeared to the East Side.

Some entrepreneurs who establish successful crack houses do well enough to expand their operations to multiple sites. Higher level syndicate operatives who control more than one locale also develop management techniques to control the operating staff of specific crack-house operations. The operatives they recruit to staff the expanded locations are people who come from their already successful operations, old neighborhood friends, relatives, or secondary sources who come to their attention by reference from these primary relationships. As a consequence, the management techniques are often vaguely built on a combination of long-standing friendship, loyalty, and ties of kinship. They are also based on various economic incentives, ranging from rather formally defined franchise-type arrangements to familial generalized sharing. People who work as staff in a crack house may be paid a salary, receive a straight percentage of the sales receipts, be entitled to bonuses, be entitled to operate "side hustles" like providing pipes, torches and the like for a fee (which they keep), or any permutation of these and other reward arrangements. We have noted already that some operatives may operate "side scams" or hustles such as "pinching" that can boost their income. Some simply are allowed to live there and smoke all the crack they want. Some are prohibited from any drug use on the job, but are free off duty to smoke all they want (if they can pay for it). Some are fired if their boss even hears rumors that they are using crack.

The Crack House as a Social Site

Crack houses described thus far are labeled austere and severe, as they seek to eliminate all social interaction with clients except for the stark transfer of crack and cash. On the opposite end of the spectrum are crack houses that run a "blind pig" style of operation, relying on a social scene characterized as "open" or "enhanced." It stands in distinct contrast to the austere style and represents a type of tavern culture, a social scene where one goes not simply to acquire crack, but to smoke it with others, share it with others, and accomplish other social goals. Socialization is valued to some degree for its own rewards. People drawn to this type of operation are often neighborhood associates, and such operations are often parochial. These crack houses generally are not wide open. Entry is often selective, based on prior relationships or accompaniment by a regular. In this type of crack house, customers linger; thus the operators often provide other goods and services, for which they charge a fee. Because operators permit, perhaps even encourage, a variety of social interactions in addition to the drugs–money exchange, such crack houses are a more complex and enriched sociological environment. This has important implications for the type of drug-related behavior that occurs in them. Interview 75 is an example of a crack house that permitted the purchase and consumption of crack by customers onsite. As such, this type of crack house becomes a catchment of users. In the words of one informant, it can be a "wild scene."

Interview 75: Crack House. (31 years old, black, male, no criminal record)

I: To initiate my contact, I moved in with a friend of mine from the neighborhood. People would drop by and we would smoke a lot of weed and it came a place where everybody dropped by to smoke crack. We started to sell crack from his own. These people contacted us to sell it 'cause they could see traffic comin' in and out. We also tried to do certain things on the job. We didn't sell for notorious people. The side things we might be able to sell our own sack in addition for selling for them.

R: How were you organized?

I: I didn't like the scene of always caring a gun. Sometimes we wouldn't have to wear guns, we didn't have too many people come to the house that we didn't know. People had to be referred before we would sell to them. These guys came in the house and they sometimes smoked in the house. They sit in the house hanging around and sometimes had crowds. I couldn't control my urge but my partner could control his urge. We had a couple of bad scenes where one time this neighbor from down the street and it was a few brothers and some more guys getting high and . . . money came up

and he was pistol whipped and hospitalized. We really didn't make any money because we spent our money on smoke and supplying our habits. We only wanted to have enough for us.

Interview 35: Crack House. (27 years old, black, female, no criminal record)

R: Can you tell me about the scene in the dope house?

I: It is crazy. People are paranoid. It affects people in all kind of different ways. Some can handle it and are cool and calm with it but they scheme like you do on the next person in order to get their next high from crack. Others are so paranoid, running in and out of closets and moving around the house, can't talk when they get high. Some are scared of you when you are getting high, as you don't know what they are going to do next or what they are thinking about. Males you are really scared of as they might pull out a gun and I don't put nothing pass any of them. My worst experience watching this particular guy go through hallucinations because he was speed bombing. But he was injecting cocaine and was injecting heroin and smoking crack cocaine. He was hallucinating about people being in the house, in the closet and ——. I should have been dead a long time ago, 'cause I went through that shit personally, walking around the house with knives, cutting lights on and off, which makes other people scared. This will happen to everybody eventually, but it takes some people longer than others. I wasn't scared when I started, but after being with him he has made me scared and getting scared by myself since I am smoking by myself. But it started with him and affects everybody. I couldn't stay in the dope house too long. I kept myself supplied from my wages and through my boyfriend. I was not involved in any kind of crime myself.

Because of the nature of this type of operation, a lot of collateral enterprises are possible. This style of operation may vend crack pipes (or rent them), provide baking soda, liquor, torches, and other substances like marijuana. These are provided for a fee. These operations are also locales where it is often possible for customers to exchange as barter a variety of items for crack. Thus these operations function as fences for stolen material. This next series of excerpts illustrates a variety of activities regarding the tavern-style crack house, its methods of operation, and the general quality of social experience associated with crackhouse operations. Interview 03, while somewhat cryptic, reveals several interesting dynamics. For example, fixed locales permit the reception and utilization of barter (drugs for various commodities as exchange). Also, the commingling of customers under one roof creates a new dynamic to social interaction within the crack house.

Interview 3: Crack House. (27 years old, white, male, no criminal record)

R: What was the dope house scene like?

I: Filled up with a bunch a people smokin' it.

R: Did you just buy and take off?

I: Sometimes I'd smoke at houses.

R: Were people friendly to each other? Did they just ignore each other?

I: They're gonna be friendly because like, this is a kitchen table, and they're all sittin' around it. And they gotta be nice, 'cause they want a piece of yours if they're out, you know.

R: So guys hang out there with no money?

I: Yeah. After they spent all theirs and wanted some more, you know.

R: They (the operators) didn't throw these guys out?

I: Not all the time. Normally, the guy of the house would buy things, like TVs and ——, so the guys in the house would go steal.

R: So the place also had merchandise. Could you buy it if you wanted?

I: I could, but I never tried though, you know.

R: Did you see that happen? Was the guy running the house also fencing?

I: You can bet he was. But he smoked too.

R: Ever see any guns?

I: Oh yeah. Shoot, definitely. This one guy I know, he'd have to go three blocks to cop more. When he ran out to get more, he'd walk down the street with his gun, you know, to get more. Dangerous. It really is.

R: Ever see any violence?

I: Not ever.

R: They try to keep it under control?

I: Yeah. When the house is full they walk around with a shotgun and stuff. It's crazy.

R: What about getting out of there?

I: Sometimes there's problems, you know. They got wires on the doors and windows and you gotta wait till they're ready to open. They're always paranoid, lookin' for cops—

R: Ever worry about getting ripped off when people watched you come out of the house?

I: Oh yeah.

R: Did you carry a gun yourself?

I: No I never did.

R: You just took your chances and moved quick?

I: For a white boy, yeah.

Interviews 4 and 13 reveal in more detail the same set of dynamics. Tavern-style crack houses are characterized by a collateral paraphernalia industry. They are characterized by impoverished customers trying to mooch, hustle, or inveigle some crack from customers who are not yet fiscally exhausted, and by conspiratorial behavior centered around combined efforts to leave the crack house to raise more money and return for more crack. They are also characterized by a great degree of tension and potential for violence, enough to require some form of established security to regulate the social interaction itself.

Interview 4: Crack House. (39 years old, black, male, ex-convict, larceny)

R: Tell me about your experiences in the crack houses.

I: You have people sitting around smoking. You have people sitting around hustling. Trying to rent out they pipes, trying to get you to let them get the pipes.

R: Why should you?

I: 'Cause someday you might be short and you'll need to get theirs. All they want is a good customer with money . . . and they want you to spend it all right now.

R: But these people don't have any more money, right?

I: Eventually, they gonna come on back. Where if a person ain't never got nothing, you know, they eventually gonna get booted out.

R: Would it be inappropriate to say that some people like the society, like the company, that in addition to the fact that we know they're there for the drug they're consuming, but part of it was some people say something like a ritual?

I: Yeah. Also a place to get together with somebody to go do something, to get some more. I know we can do so and so. A place where a lot of things get conjured up.

R: What about the fear factor?

I: They usually have a doorman that carries a gun. But even so it's not really necessary 'cause you very seldom see too much trouble. It's like this is where you come to get on, this is where you come to get high. And if you gonna be a trouble maker or if you gonna get into these things, it's gonna be away someplace else. That's just like a code, you know.

R: Is there, as a last resort, a guy whose job it is to keep things in line?

I: Yeah. In case of a stickup, you know, 'cause they do have stickups.

R: Do they frisk you for a gun?

I: I have been frisked at times, but normally the place you go, they don't frisk you for guns.

R: Were these guys worried about cops?

I: More scared about a user.

R: So that would rank higher in terms of concern than the fact that the police could come in and bust?

I: Yeah. But the reality is there that the police could come. You have more rip-offs and stickups than you have busts.

Interview 13: Crack House. (27 years old, black, male, ex-convict, homicide)

R: Can you describe the scene in the crack house?

I: Man, that's a wild scene in a crack house. It be dependin' on what type of house you got. I would let people come in there, pay to smoke, supply 'em with pipe, charge 'em to use it, charge 'em for the rum and they could just spend they money and —— and smoke. But I wouldn't do that now.

As operators of austere crack operations would be quick to point out, the tavern-culture crack house has an intrinsic weakness. It exposes the operators and customers to each other in a relatively intimate and extended fashion, and this makes them, to varying degrees, more vulnerable to violence, crime, and danger. Interview 39 demonstrates the reality of this problem.

Interview 39: Crack House. (34 years old, black, male, ex-convict, auto theft)

I: I got to selling it because he had too many people comin' around, so he had to start spreading it out . . . While selling it I wasn't worried about security at all. I did get robbed and it tripped me out. It was a customer. We were working the street and I was so comfortable to the fact that people would say to me that I had too much business. I had whores and they were my biggest clientele. I had 20 or 30, and they was buying anywhere from $50 or $60 worth a dope. I had about $400 of their business. To me that was superb, I was content. People was bringing me stuff that was stolen, I was buying ——. I would get certain items if I needed something. I knew a girl that was a booster, she would come to me and ask what clothes and size clothes you need, would boost it and bring it back the next day. And I would supply with her habit.

R: How did you get robbed?

I: I normally don't let nobody in my house, but this guy I knew was with this other guy and I let them both in. I peeped it and couldn't close the door knowing I had another guy in the house with me. He had the gun and at this time he went to the store. They tied me up and put me in the closet and shit and tagged me on my head with the gun. Some other guys that I work with they just happen to come and check on me and busted in the apartment and started chasing the guys and caught them about 2 or 3 days later. They didn't get their money back but gave them a real ass-kicking.

Informants report that crack house customers will meet, smoke, exhaust their funds, conspire, leave, commit a property crime, return with the merchandise, exchange it for crack, and then begin the whole process over again. Men and women who frequent crack houses have often reported exchanging sex for crack (these women are sometimes called "bust-out girls"). In these exchanges, it is the female who provides the sex for a male. Male prostitution for crack, either to other males or females, is not reported within this group. These reported exchanges are between the female customer and other male customers in the crack house. If they go to another room to "freak" (to have sex), the crack house operator typically charges a room-use fee. Both male and female informants reported sex-for-drugs exchanges within the context of the tavern-style crack house. While it is obvious that such exchanges can occur in isolation and in solitary settings on the street, the catchment effect of the crack house appears to concentrate that activity, and may elevate the levels of sexual exchange simply by the situational structure and convenience that the house itself provides. For example, although the basic operation of the crack house described by the informant in interview 55 would be categorized as austere, exceptions were made when it came to using the facility for sexual exchange purposes.

Interview 55: Crack House. (26 years old, black, male, no criminal record)

I: Yeah. I shifted from powder to rock and my life . . . it was like night and day. It was totally new people that I was meetin', not good people. I mean it was folks out there, people I was meetin', thugs, I was meetin' just all kind of people, real drug addicts, people that would rob you, people that would take all your money. Me and another guy had gotten together and we was sellin' coke in this apartment building. We sold coke in this apartment building for a whole year. Now this apartment building had four floors up in it, OK? We went from the first floor, to second floor, to the third floor, to the fourth floor and we always was movin' to different units, just movin' around like flies sellin' rock. And then all of a sudden they was gettin' hip onto the inside of this building so we found out they was gonna make a raid on the whole building. The thing was that we was always runnin' from the police all the time.

R: How did you operate out of this building?

I: OK. We had . . . OK, you go to Radio Shack and you buy these head sets with the mike and everything. We got two guys down on each corner and we got a guy up in the window on the fourth floor lookin' out, watchin' out for the police. And the guys who got the sack on 'em in the hallway or in the apartment got one at his ears. So everybody could stay in communication, no matter what. If the

police pulls in front of the building, we let 'em know. If they pull in the alley, we let 'em know. If they riding past we let 'em know, if they ride past and stop, we let 'em know. When they in the building, that when everythin' shift down. You don't answer the door or nothin'. The guy in the window came up out the window. The guy on the outside stayed and kept you in touch on what was goin on.

R: Could customers smoke in the joint?

I: No. None of that. I didn't allow that. A female that wanted to get off somebody rent her, so we'd give it to her. But she couldn't smoke. She had to do what she had to do and go.

R: Females that didn't have money would exchange sex for drugs? These ladies could have sex in the crack house, but no smoking?

I: Yeah.

It is interesting to note the utilization of technology described by the informant in interview 55. We have previously noted that phone pagers are important technical devices. This utilization of short-range radios and other technology such as radio scanners may also be important emerging selling strategies as well. The theme of sex-for-crack as exchange is also demonstrated in interview 27.

Interview 27: Crack House. (33 years old, black, male, no criminal record)

R: Can you tell me something about the crack-house scene?

I: If I didn't know them (the dealers) someone would turn me on or I would go with somebody. If it was someone I knew, I would sit around and mingle, look at the ball game, and I'm spending my money, and they throwing me something, saying "Hey man, put that with yours." Some of them would be women. I'd get with the females and I'd get a little crack for a little sex or whatever. That would keep me there. It all depends on the environment and the people. I still had insight on that. I knew where I was comfortable at.

Interview 95 is a similar description, but it involves a report by a female informant. It typifies the character of female reports in this regard. The sequence usually involves a female appearing at a crack house with some money and making a cash purchase of some crack. After exhausting her supply, she would then begin to seek alternative methods to obtain crack, which eventually, if not immediately, involved bartering sex for crack.

Given the extensive periods of time over which crack consumption activity can extend, the potential for extraordinary numbers of discrete, sequential sexual encounters is enormous. The implication for the epidemiology of sexually transmitted diseases (STDs) and the human immunodeficiency virus (HIV) is that hypersexuality may be characteristic of this style of crack house. As a consequence, communities in which tavern-culture crack houses are popular may suffer increased rates of both STDs and HIV.

Interview 95: Crack House. (33 years old, black, female, no criminal record)

R: Tell me about the crack house.

I: I needed about $300 a day, but smoked about 20 a day. When I bought on my own I bought and smoked in a dope house. The scene is very bad. It is nasty. They didn't have any running water, no beds to sleep on. Just dirty, filthy with rats and roaches. But when you get like that all you want to do is hang out around the cain. So I would hang out for about a week at a time. I didn't eat during this time and barely drunk water. I turned tricks in the dope house for the rocks. I have never been in a dope house when it was raided, but was once coming from a dope house to my boyfriend's house and his house was being raided.

SUMMARY

This chapter identified three methods by which crack cocaine is distributed at the retail level: the street-corner or walk-up sales system, the runners and beepermen system, and the crack house. The chapter devoted primary attention to the crack house, because it appears as the most popular method for distribution. In examining the crack house, it is noted that there are identifiable styles of crack-house operations. If the quality and quantity of social interaction, as well as the situation in which sellers posture themselves, are taken as indices, then a typology can be created characterizing crack-house operations. One end of the scale is an austere method in which social interaction between buyer and seller is severely restricted; on the other, crack houses operate as tavern-style exchange locations, which include socialization above and beyond that required for the exchange of money for crack. The nature of these exchanges are themselves important, since they involve social behaviors that are of concern.

One concern is the degree and nature of violence as it is associated with drug abuse. The data in this chapter describe some ways in which violence appears within the crack subculture. This violence comes from multiple sources, but some prominent ones appear to be the businesslike operations of crack distribution, the personal disorganization that surrounds and characterizes the crack-consuming environment, and the distortions of character

that crack users describe as often accompanying significant binges of crack consumption. Distributors use violence to control situations. Violence is most prominently used for security at the point of retail sale, to periodically resolve conflicts with rivals, and to discipline employees when necessary. Insofar as it is described by this group of informants, crack as a social phenomenon is tied to violent and abusive behavior.

This chapter reports on behaviors that, although not traditionally violent, are of concern and bear upon public health and safety. Tavern-style crack houses may encourage and make possible hypersexuality among participants and thus increase STD and HIV risks. The use of barter as a supplement to a cash economy in the crack trade represents further complications in creating social policies in reaction to this behavior. A range of other illegal and problematic behaviors was also described, illustrating the complexity of interactions that constitute the life of street-level crack users.

The social policies that may be called for in response to these social events are not simple and are most certainly not defined by these particular data. Nonetheless, review of the literature establishes that a basic ethnographic description of the hard-core crack user and user–dealer is scarce. It is hard to imagine that solid and workable policies can be created without significant information on the quality and holistic elements of the crack-using population.

REFERENCES

Caplowitz, D. *The Working Addict.* New York: The Graduate School of City University of New York, 1976.

Geberth, V. The Quarterkids. *Law and Order* 20(9):27-38, 1978.

Goldstein, P. Getting over: Economic alternatives to predatory crime among street drug users. In: Inciardi, J., ed. *The Drugs–Crime Connection.* Hollywood, CA: Sage, 1981. pp. 67-84.

Hanson, B.; Beschner, G.; Walters, J.; and Bovelle, E. *Life With Heroin.* Lexington, MA: D.C. Heath, 1985.

Hagedorn, J.M. *People and Folks.* Chicago: Lakeview Press, 1988.

Inciardi, J. *The War on Drugs.* Mountain View, CA: Mayfield Press, 1986.

Johnson, B.; Goldstein, P.; Preble, E.; Schmeidler, J.; Lipton, D.; Spunt, B.; and Miller, T. *Taking Care of Business: The Economics of Crime by Heroin Abusers.* Lexington, MA: D.C. Heath, 1985.

Johnson, B.; Hamid, A.; Morales, E.; and Sanabria, H. Critical dimensions of crack distribution. Presented at the American Society of Criminology Annual Meetings, Montreal, PQ, 1987.

Mieczkowski, T. Understanding life in the crack culture. *NIJ Reports* 217:7-11, 1989.

Mieczkowski, T. Geeking up and throwing down: Heroin street life in Detroit. *Criminology* 24(4):645-667, 1986.

Nurco, D.; Ball, J.; Shaffer, J.; and Hanlon, T. The criminality of narcotics addicts. *J Nerv Ment Dis* 173:94-102, 1985.
Pearson, G. *The New Heroin Users.* New York: Basil Blackwell, 1987.
Preble, E., and Casey, J. Taking Care of Business: The Heroin User's Life on the Street. *Int J Addict* 4:1-24, 1969.
Redlinger, L. Marketing and Distributing Heroin. *J Psychedelic Drugs* 7(4):331-353, 1975.
Wepner, R. *Street Ethnography.* Beverly Hills, CA: Sage Press, 1977.

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The Crack–Violence Connection Within a Population of Hard-Core Adolescent Offenders

James A. Inciardi

INTRODUCTION

Given the recent concerns over the perceived rising rates of drug-related violence in many inner-city neighborhoods across the Nation, this analysis focuses on the various types of violence associated with crack use and crack distribution in Dade County (Miami), FL. The data are drawn from a National Institute on Drug Abuse (NIDA)-funded study of adolescent drug users conducted from 1985 to 1988, with followup interviews during 1989 with crack users and dealers in Miami's inner-city communities.

In 1985, few people nationally had ever heard of crack cocaine, but it was already a problem in Miami and Dade County (Inciardi 1987). Awareness of this problem permitted crack to be included in the drug history section of a planned interview schedule for a street study of adolescent drug use and crime. The focus of the research was not crack per se but rather the drug-taking and drug-seeking behaviors of some 600 Miami youths who were "seriously delinquent." *Serious delinquency* was defined as having committed, during the 12-month period prior to interview, no less than 10 FBI "Index" offenses[1], or 100 lesser crimes. A second criteria for inclusion in the study was the regular use of one or more illegal drugs at any time during the 90-day period prior to interview. *Regular drug use* was defined as use at least three times a week.

One of the rationales for the study, which is of particular importance for this technical review on drugs and violence, is that most systematic studies of delinquency in recent years have focused on representative populations of either adolescents in general or juvenile offenders in particular (Elliott et al. 1985; Thornberry et al. 1985; Dembo et al., this volume). Although these investigations have provided the research community with important data on issues relating to drugs, delinquency, and youth crime, little has been

generated that is descriptive of the extremely hard-core populations of adolescent drug-using criminals. This study was specifically designed to reach a segment of that population. Moreover, it is in such a population that high levels of drug-related violence are most likely.

METHOD

Research subjects were located through multiple-starting-point "snowball sampling" techniques in Miami and Dade County neighborhoods where drug use and crime rates were high (Inciardi 1986). During the data collection phase of the study, a total of 611 youths meeting the selection criteria were contacted and interviewed. As indicated in table 1, some 83.6 percent were males, and 16.4 percent were females; 41.4 percent were white, 42.2 percent were black, and 16.4 percent were Hispanic. Although blacks (who make up 15 percent of the Dade County population) are overrepresented in the sample, and Hispanics (44 percent of the Dade County population) are considerably underrepresented, this racial–ethnic distribution is not unlike that found in other studies of the Miami drug scene (Inciardi 1986; Inciardi and Pottieger 1986; McBride and McCoy 1981; McCoy et al. 1979). These 611 youths had a mean age of 15 years, with the largest proportion in the 16-to-17-year cohort. Although 71 percent were still attending school at the time of interview, 537 or 87.9 percent had been either suspended or expelled from school at least once, with such disciplinary actions typically resulting from drug use or drug sales on school premises. Finally, whereas only 1.3 percent of these youths were living alone, 521 or 85.3 percent were living with one or more members of their own family.

Drug Use and Criminal Histories

All of the youths interviewed had extensive histories of multiple drug use with identifiable patterns of onset and progression. As illustrated by the mean ages reported in table 2, they began their drug-using careers at age 7.6 years with alcohol experimentation, followed by their first alcohol intoxication more than a year later. Experimentation with marijuana began at age 10.4 years, with the regular use (three or more times a week) of both marijuana (100 percent of the sample) and alcohol (53.7 percent of the sample) within a year thereafter. Experimentation with cocaine, speed, heroin, and prescription depressants occurred during the 12th year, with 93.3 percent moving on to the regular use of cocaine by age 13. Their first use of crack cocaine occurred at a mean age of 13.6 years, and, by age 14, 85.6 percent of the sample considered themselves to be regular users of the drug.

It would appear from the data in table 3 that the criminal careers of these 611 youths emerged more or less in tandem with their drug-using careers. Their first crimes occurred at a mean age of 11 years. Notably, more than 90 percent had engaged in drug sales and thefts before age 12, and

TABLE 1. *Selected characteristics of 611 Miami and Dade County hard-core adolescent offenders*

Characteristic	Percent	N
Age		
12-13 years	19.6	120
14-15 years	38.5	235
16-17 years	41.9	256
Mean age=15 years		
Sex		
Males	83.6	511
Females	16.4	100
Ethnicity		
Black	42.2	258
White	41.4	253
Hispanic	16.4	100
School Status		
Grades 5-8	26.5	162
Grades 9-10	33.4	204
Grades 11-12	11.1	68
Dropped Out	28.6	175
Graduated High School	0.3	2
Mean Grades Completed=8.5 grades		
Ever Suspended or Expelled from School		
For Drug Use	82.2	502
For Drug Sales	46.6	285
For Other Crime	26.2	160
For Any Reason	87.9	537
Mean Number of Suspensions or Expulsions=2.6 times		
Currently Living With		
Own Family	85.3	521
Other Family	2.0	12
Sex Partner	5.2	32
Friends	6.2	38
Alone	1.3	8

NOTE: Owing to their low visibility and limited numbers in Miami's street community of adolescent drug users, females in the 12-to-13-year cohort and Hispanic females were excluded from the sampling frame of this study.

TABLE 2. *Drug-use histories of 611 Miami and Dade County hard-core adolescent offenders: Mean ages at onset and percentages involved*

Drug Used	Mean Age	Percent Involved
Alcohol		
First Use	7.6	100.0
First High	8.8	99.5
First Regular Use	11.0	53.7
Marijuana		
First Use	10.4	100.0
First Regular Use	11.4	100.0
Cocaine		
First Use	12.3	99.2
First Regular Use	13.0	93.3
Heroin		
First Use	12.8	56.5
First Regular Use	12.7	16.2
Prescription Depressants		
First Use	12.6	75.8
First Regular Use	13.2	44.7
Speed		
First Use	12.7	59.9
First Regular Use	13.6	14.9
Crack		
First Use	13.6	95.7
First Regular Use	14.0	85.6

64 percent had participated in a robbery by age 13. In addition, 90 percent had histories of arrest and 45.5 percent had been incarcerated; however, only 13.4 percent reported any substance abuse treatment.

Current Drug Use and Crime

All of the youths in this population were daily users of at least one drug. Table 4 illustrates the depth of their drug use during the 90-day period prior to interview. Marijuana was used three or more times a week by 95 percent of the sample, 64.2 percent used some form of cocaine daily, and all

TABLE 3. *Crime and criminal justice histories of 611 Miami and Dade County hard-core adolescent offenders: Mean ages and percentages involved*

Crime	Mean Age	Percent Ever Involved
Any Type of Crime		
First Ever	11.0	
Start Regular*	12.5	99.7
Drug Sales		
First Marijuana Sale	11.5	94.9
First Other Drug Sale	12.5	89.7
Start Regular	12.7	91.7
Theft		
First Time	11.7	98.5
Start Regular	12.8	85.9
Prostitution		
First Time	12.6	19.5
Start Regular	12.8	14.6
Robbery		
First Time	12.9	64.5
First One Armed	14.1	17.5
Tenth Time	13.7	38.5
Arrest		
First Time	12.1	90.0
Adjudication		
First Time	12.8	74.1
Incarceration		
First Time	13.5	45.5
Drug and Alcohol Treatment		
First Entry	14.2	13.4

*Regular=3 or more times per week, 150 or more times for the year.

but 9 percent used at least one coca product (powder cocaine, crack cocaine, or coca paste) three or more times a week. By contrast, the use of

TABLE 4. *Current drug use among 611 Miami and Dade County hard-core adolescent offenders*

Drug Used	Frequency	Percent Using
Alcohol	Daily	16.4
	Regular	30.6
	Occasional	48.9
	No use	4.1
Marijuana	Daily	82.0
	Regular	13.4
	Occasional	4.6
Prescription-Type Depressants	Regular	22.4
	Occasional	44.7
	No use	32.9
Powder Cocaine	Daily	14.2
	Regular	29.3
	Occasional	54.5
	No use	1.9
Crack	Daily	39.6
	Regular	29.8
	Occasional	23.9
	No use	6.7
All Forms of Cocaine*	Daily	64.2
	Regular	27.0
	Occasional	7.2
	No use	1.7
Speed	Regular	1.1
	Occasional	31.0
	No use	67.9
Heroin (IV)	Daily	3.9
	Regular	2.9
	Occasional	36.5
	No use	56.6

*Includes cocaine, crack, and/or basuco (coca paste).

speed or heroin was relatively uncommon. Only 3.9 percent of the sample reported using heroin daily.

Table 5 presents a number of interesting insights into the criminal activity of these youths. Unquestionably, their criminal involvement is considerable. They reportedly perpetrated some 429,136 criminal acts during the 12-month-period prior to interview—an average of 702 offenses per subject. Although this figure might seem astronomical at first glance, analysis indicates that the majority of offenses are clustered in what are often referred to as "drug related" and other "less serious" crime. For example, some 59.9 percent were "drug business" offenses—the manufacture, transportation, and sale of drugs. Manufacture typically involved the small-scale production of crack for either personal use or for street-level sale. Transportation involved the delivery of drugs (typically crack) from dealers and crack houses to customers, the steering of customers to dealers, or the communication of customers' orders to dealers and crack houses. Sales were almost exclusively in small rather than bulk amounts. In addition, some 10.2 percent of the offenses involved prostitution or pimping, 11.6 percent were individual incidents of shoplifting, and 11.1 percent were stolen-goods offenses. As such, a total of 92.8 percent of these 429,136 offenses involved drug law violations, vice, shoplifting, and dealing in stolen property.

This should not suggest, however, that these youths do not commit serious crimes. The sheer volume of their criminal acts suggests that they do. They were responsible for some 18,477 major felonies. Among these felonies were 6,269 robberies and 721 assaults. Although the majority of these robberies were purse snatches, a significant number were armed robberies in homes, shops, and on the street. In fact, some 88.4 percent of the sample reported carrying weapons most or all of the time, and more than half of these carried handguns.

The Drugs–Violence Connection

The general relationship between drugs and violence within this population can be examined within the context of Goldstein's (1985) conceptual framework of the psychopharmacological, economic compulsive, and systemic models of violence.

Psychopharmacologic Violence. The psychopharmacological model of violence suggests that some individuals, as the result of short-term or long-term use of certain drugs may become excitable, irrational, and exhibit violent behavior. Of the sample, 5.4 percent reported involvement in this form of violence at least once during the 12-month period prior to interview. Interestingly, only 4.6 percent reported being the victims of psychopharmacological violence during this same period. In either case, the impatience and irritability associated with drug withdrawal or the paranoia and edginess associated with stimulant abuse were the typical causes of this behavior. During mid-1989, a 17-year-old daily crack user summed up both situations:

> It doesn't seem to matter whether you're on or off crack . . . you're crazy both times. If you're high, you think

TABLE 5. *Criminal activity during the 12-month period prior to interview among 611 Miami and Dade County hard-core adolescent offenders: Total crimes and percentages involved*

Offense	Number	Percent	Percentage Involved
Major Felonies	18,477	4.3	78.1
Robberies	6,269	1.5	59.1
Assaults	721	.2	14.9
Burglaries	10,070	2.3	60.2
Motor Vehicle Thefts	1,417	.3	42.1
Property Crimes*	109,538	25.5	98.2
Shoplifting	49,582	11.6	93.3
Theft From Vehicle	2,720	.6	58.3
Pickpocketing	552	.1	9.7
Prostitute's Theft	3,005	.7	13.6
Other Larcenies	949	.2	3.8
Confidence Games	925	.2	24.7
Forgery (Any)	3,635	.8	30.3
Stolen Goods Offenses	47,572	11.1	80.5
Property Destruction	383	<.1	28.8
Other	215	<.1	0.7
Vice Offenses	43,962	10.2	26.8
Prostitution	38,044	8.9	17.5
Procuring	5,918	1.3	20.1
Drug Business**	257,159	59.9	96.1
Total	429,136	100.0	100.0

*Forgery (any) includes checks, credit cards, and prescriptions; stolen goods includes selling, trading, and buying to resell; property destruction includes arson (actually, a major felony) but is almost entirely vandalism.
**Drug Business includes the manufacture, transportation, and sale of drugs.

> someone's goin' ta do something to you, or try an' take your stuff. If you're comin' down or are waiting to make a buy or just get off, you seem to get upset easy . . . A lot of people been cut just because somebody looked at them funny or said somethin' stupid.

Economic Compulsive Violence. The economic compulsive model of violence holds that some drug users engage in economically oriented violent crimes to support their costly drug use. As already indicated in table 5, 59.1 percent of the sample (n=361) participated in 6,669 robberies during

the 12-month period prior to interview, the majority of which were committed to purchase drugs. In addition, whereas 24.1 percent of the sample indicated that they had robbed drugs from users or dealers, 39.9 percent reported that they had been the victims of a drug robbery.

Systemic Violence. The systemic model of violence maintains that violent crime is intrinsic to involvement with any illicit substance. Systemic violence refers to the traditionally aggressive patterns of interaction within the systems and networks of illegal drug trafficking and distribution. According to this definition, 9.0 percent of the sample reported being victims of systemic violence, and 8.3 percent were perpetrators of such violence. Typically, violence emerged in this population from fights resulting from territorial disputes, the sale of poor quality drugs, and "messing up the money." To this can be added the execution in 1987 of two crack user–dealers in Miami's Liberty City community who were suspected to be police informants. As the reported perpetrator of these homicides indicated:

> I'm not sayin' when I did it, how I did it, or where I did it. But I will say why. Because they were cheatin', lyin' —, takin' money from cops and sellin' out . . . So I was told to teach 'em a good lesson, and make a good example of 'em.[2]

The Crack–Violence Connection

Interviewing for this study began during the early months of 1986, and preliminary analyses showed a high prevalence of crack use. Of the first 308 youths interviewed, for example, 95.5 percent reported having used crack at least once, and 87.3 percent reported current regular use. These figures prompted the design of a supplementary crack data instrument, which was ultimately used during the final 254 interviews from October 1986 through November 1987.

The differences between this subset and the 611 cases already described are minimal, a function of the fact that, although they were an average of 3 months older than the total sample, they were drawn from the same locales. However, the additional data collected provided an opportunity to examine violence within a wider context of crack distribution.

In the supplementary data collection instrument all of these 254 youths were questioned about their participation in crack distribution. All but 50 (19.7 percent) had some level of involvement. Of the youths, 20 (7.9 percent) had only minor involvement—they sold the drug only to their friends, worked for dealers as lookouts and "spotters," or steered customers to one of Miami and Dade County's approximately 700 crack houses. Most of the youths (138 or 54.3 percent) were crack dealers, involved directly in retail sales of crack. Finally, 46 subjects (18.1 percent) were designated as

"dealer+," since they not only sold the drug, but also manufactured, smuggled, or wholesaled it.

By examining drug use within the context of a youth's level of involvement with the crack business, a number of relationships quickly become evident. As indicated in table 6, for example, the greater a youth's involvement in the crack business, the more likely was the daily or at least regular use of such drugs as marijuana, depressants, and crack. Whereas 66 percent of the youths with no business involvement were daily users of marijuana, this proportion increased to 80 percent for those with minor involvement, 91.3 percent for dealers, and 100 percent for those in the dealer+ group. The most pronounced differences are apparent with crack use, with the proportions using the drug daily ranging from 2 percent of those with no crack business involvement to 87 percent of those in the dealer+ group. When viewing all forms of cocaine collectively, this range of proportions of daily users increases to 16 percent of those with no involvement to 95.7 percent in the dealer+ group.

The only data in table 6 not following the same general trend in proportions of daily users relates to powder cocaine. None in the dealer+ group and only 2.9 percent of the dealers were daily users of cocaine, and only 8.7 percent and 21 percent, respectively, were regular users. Therefore, there were considerably more daily and regular users of powder cocaine among those having little or no involvement. The reason for this difference is the fact that, whereas crack was the cocaine of choice among 93.5 percent of those in the dealer+ group, it was the cocaine of choice for only 28.6 percent of those with no crack business involvement.

Table 7 shows a clear relationship between a youth's proximity to the crack market and his or her overall position in the street worlds of drug use and crime, *including violent crime*. It would appear, for example, that the more involved a youth is in crack distribution, the younger he or she first committed a crime, was first arrested, and was convicted and incarcerated. For example, whereas youths with *no* involvement in the crack business first used drugs at a mean age of 12.6 years, committed their first crime at 11.7 years, experienced their first arrest at 12.8 years, and were first incarcerated at 14.2 years, the corresponding mean ages for these same events in the dealer+ group were 10.6, 10.3, 11.1, and 12.8, respectively. Moreover, the nearer the proximity to the crack market, the higher the likelihood of an early history of a first arrest resulting in incarceration.

In terms of the extent of criminal involvement during 1 year prior to interview, once again, those more involved in crack distribution had greater levels of crime commission. As indicated in table 8, for example, greater proportions of those closely tied to the crack business were involved in major felonies and property offenses than those more distant from the crack

TABLE 6. *Current drug use by crack business involvement among 234 Miami and Dade County hard-core adolescent offenders*

Drug Used	Crack Business Involvement: None (n=50)	Minor (n=20)	Dealer (n=138)	Dealer+ (n=46)	Total Sample (n=254)
Alcohol					
Daily	4.0	5.0	7.2	8.7	6.7
Regular	14.0	15.0	39.9	56.5	35.8
Occasional	78.8	80.0	48.6	34.8	54.3
No Use	4.0	0.0	4.3	0.0	3.1
Marijuana					
Daily	66.0	80.0	91.3	100.0	87.0
Regular	30.0	20.0	6.5	0.0	11.0
Occasional	4.0	0.0	2.2	0.0	2.0
Prescription-Type Depressants					
Regular	2.0	5.0	32.6	50.0	27.6
Occasional	56.0	55.0	52.9	36.9	50.8
No Use	42.0	40.0	14.5	13.0	21.7
Cocaine Powder					
Daily	10.0	15.0	2.9	0.0	4.7
Regular	44.0	60.0	21.0	8.7	26.4
Occasional	36.0	25.0	76.1	91.3	66.9
No Use	10.0	0.0	0.0	0.0	2.0
Crack					
Daily	2.0	5.0	70.3	87.0	54.7
Regular	26.0	50.0	15.2	6.5	18.5
Occasional	48.0	45.0	14.5	6.5	22.1
No Use	24.0	0.0	0.0	0.0	4.7
All Forms of Cocaine*					
Daily	16.0	30.0	82.6	95.7	67.7
Regular	58.0	70.0	17.4	2.2	26.8
Occasional	16.0	0.0	0.0	2.2	3.5
No Use	10.0	0.0	0.0	0.0	2.0

*Includes cocaine, crack, or basuco (coca paste).

trades. The major exception to this pattern involved the vice offenses, due primarily to the extremely small proportions of females in the sample.[3]

TABLE 7. *Crime and criminal justice histories by crack business involvement of 234 Miami and Dade County hard-core adolescent offenders: Mean ages and percentages involved*

Crime	Crack Business Involvement None (n=50)	Minor (n=20)	Dealer (n=138)	Dealer+ (n=46)	Total Sample (n=254)
Drug Sale					
First Marijuana	12.6	12.3	10.1	9.9	10.6
Percent Ever	86.0	100.0	100.0	100.0	97.2
First Other	13.1	13.1	11.2	11.3	11.7
Percent Ever	70.0	100.0	100.0	100.0	94.1
Start Regular	13.7	13.4	11.4	11.5	12.0
Percent Ever	84.0	100.0	100.0	100.0	96.9
Theft					
First Time	12.0	12.6	10.8	10.7	11.2
Percent Ever	94.0	100.0	100.0	100.0	98.8
Start Regular	13.4	13.5	11.7	11.7	12.0
Percent Ever	74.0	55.0	89.9	100.0	85.8
Crime (Earliest)*					
First Time	11.7	12.1	9.8	9.7	10.3
Start Regular	13.2	13.2	11.2	11.2	11.7
Percent Ever Regular	100.0	100.0	100.0	100.0	100.0
Arrest					
First	12.8	13.1	10.6	10.4	11.1
Percent Ever	68.0	100.0	98.6	93.5	91.7
Adjudication					
First Arrest Resulting in Adjudication	14.1	14.6	10.9	10.9	11.3
Percent Ever	20.0	45.0	84.8	93.5	70.5
Incarceration					
First	14.2	15.0	12.6	12.8	12.8
Percent Ever	12.0	25.0	61.6	71.7	50.8
Treatment for Drug/Alcohol					
First Entry	N/A	N/A	13.2	13.0	13.1
Percent Ever	0.0	0.0	4.3	8.7	3.9

*First=age at time of first such occurrence, whether for drug sales, theft, prostitution, or robbery; regular=10th occurrence for robbery, 3 or more times a week for others.

TABLE 8. *Criminal activity during the 12-month period prior to interview, by crack business involvement, among 234 Miami and Dade County hard-core adolescent offenders (percentage involved)*

Offense	Crack Business Involvement				Total Sample (n=254)
	None (n=50)	Minor (n=20)	Dealer (n=138)	Dealer+ (n=46)	
Major Felonies	44.0	65.0	87.7	95.7	78.7
Robbery	12.0	40.0	66.7	73.9	55.1
Assaults	4.0	0.0	8.0	17.4	8.3
Burglary	24.0	25.0	70.3	91.3	61.4
Motor Vehicle Theft	30.0	35.0	57.2	73.9	53.1
Property Offenses*	94.0	95.0	100.0	100.0	98.4
Shoplifting	90.0	95.0	100.0	100.0	97.6
Theft From Vehicle	34.0	30.0	75.4	84.8	65.4
Pickpocketing	2.0	5.0	13.0	10.9	9.8
Prostitute's Theft	8.0	5.0	20.3	4.3	13.8
Other Larcenies	4.0	0.0	0.7	0.0	1.2
Con Games	6.0	5.0	53.6	63.0	42.1
Forgery (Any)	10.0	5.0	60.1	73.9	48.4
Stolen Goods	76.0	85.0	94.9	97.8	90.9
Property Destruction	16.0	0.0	35.5	34.8	28.7
Other Crimes	0.0	0.0	0.7	0.0	0.4
Vice Offenses	18.0	5.0	33.3	17.4	25.2
Prostitution	18.0	5.0	22.5	6.5	17.3
Procuring	4.0	5.0	30.4	15.2	20.5
Drug Business (Any Drug)	86.0	100.0	100.0	100.0	97.2

*Forgery (any)=checks, credit cards, and prescriptions; stolen goods=selling, trading, and buying to resell; property destruction includes arson but is almost entirely vandalism.

The most important items in the discussion of table 8 relate to violence—robberies and assaults. In this regard, those more proximal to the crack distribution market were more involved in violent crime. Moreover, those in the dealer and dealer+ groups committed more violent crimes on a per capita basis than those in the "none" and "minor" groups. Specifically, the

mean number of robberies committed by the four groups were as follows: none (6.8), minor (5.6), dealer (13.9), and dealer+ (18.2).

DISCUSSION

These data address a number of points about the relationships between crack, crime, and violence in Miami and perhaps elsewhere. In particular, recent media reports appear to be correct in their assessment of the involvement of youth in crack distribution and violent crime as significant trends in some locales. These reports, however, may be overreporting some aspects of the crack–violence connection while underreporting others, yet, at the same time, profoundly underestimating the significance of the whole crack–crime connection.

First, whereas media reports suggest that homicide is a concomitant of crack distribution among inner-city youths, this may not be the case in Miami and Dade County. Moreover, much of the current focus on crack-related violence may be more the result of a media event than an emergent trend. Consider, for example, the trends indicated in figure 1. The data represent homicide rates per 100,000 population in six selected cities for the years 1985 through 1988 and figures for Miami and Washington, DC, through June 30, 1989. Rates were computed for the cities themselves rather than Metropolitan Statistical Areas (MSAs), since the former offer better reflections of inner-city crime. That is, *city* crime rates tend to reflect the more acute crime picture, as opposed to MSA data that are diluted by lower crime rates in many suburban areas. The year 1985 was used as the starting point, as it represents the year prior to popularization of crack in inner cities.

According to the Drug Enforcement Administration (1989), all six of these cities have high rates of crack availability and distribution. In addition, they are urban areas that are known for their high rates of crime and violence. Interestingly, they reflect alternative trends in homicide. For example:

- In New York and Atlanta, the homicide rate reflected steady upward movement from 1985 through 1988, with a 46.7-percent increase in Atlanta and a 34.4-percent increase in New York over the 4-year period.

- In Detroit and Los Angeles, the homicide rate was actually lower in 1988 than in 1985.

- In Miami, where the homicide rate increased some 25 percent from 1985 through 1988, by mid-1989 a decline was apparent.

	1985	1986	1987	1988	thru 6/30/89
Atlanta	33.2	41.4	48.1	48.7	--
Detroit	58.2	59.0	62.8	57.8	--
Los Angeles	24.3	25.5	24.2	21.6	--
New York	19.2	22.0	22.9	25.8	--
Miami	33.9	37.3	33.2	42.5	40.5
Washington, D.C.	23.4	30.9	36.1	59.5	83.2

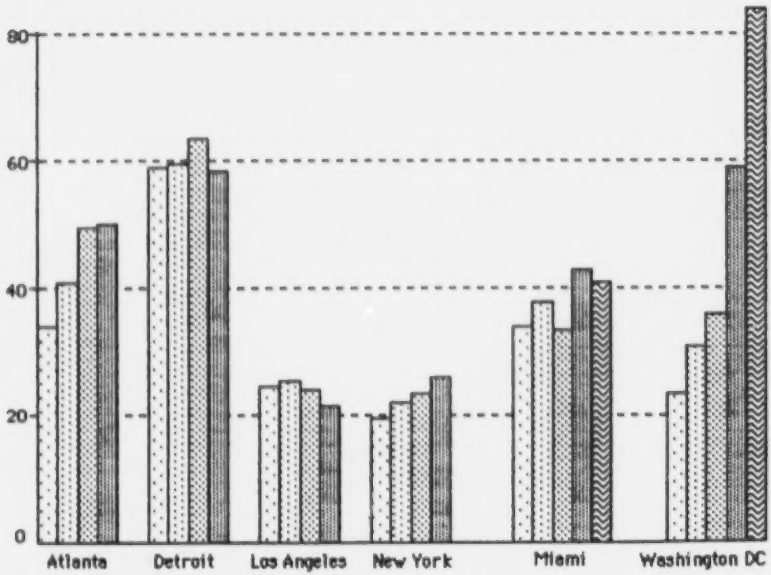

FIGURE 1. *Homicide rates per 100,000 population*

SOURCE: Based on data from *Uniform Crime Reports* 1985-1988; *Miami Herald* July 3, 1988, pp. 1B, 3B; *Washington Post* August 30, 1989, pp. A1, A20.

- In Washington, DC, where the homicide rate increased by some 154 percent from 1985 through 1988, during the first half of 1989 the rate increased by yet another, and rather extraordinary, 40 percent.

Because there are many demographic and ecological differences among the cities targeted here, it is difficult to generalize about or explain their

varying homicide rates. What is clear from the data is that higher rates of homicide do not necessarily go hand-in-hand with higher rates of crack use and distribution. In fact, what is happening in Washington, DC, appears to be unique.

Second, adolescent involvement in crack distribution does not necessarily mean youth gang involvement in crack distribution. Whereas the exploits of the "Crips," "Bloods," and other violent street gangs have become legend in Los Angeles and other parts of the United States, such is not the case everywhere there is an active inner-city crack market, particularly in Miami.

At the outset, it would appear that Miami's juvenile street gangs have yet to establish themselves in the underworlds of drug use and crime. In 1985, the Dade County Grand Jury (1985) noted that there were some 2,800 youths involved in 36 known gangs in Miami and Dade County, but that:

> Dade County gangs appear to have advanced to a point, but no further. We have learned that there is an additional evolutionary step which brings the gang from fighting and relatively disorganized criminality to the level of organized criminal activity with adult participation . . . (Dade County Grand Jury 1985, p. 2)

Three years later, the Dade County Grand Jury (1988) reexamined the gang problem. Although they found that the number of gang members had expanded 95 percent to some 3,500, they could present no evidence that juvenile gangs had become meshed in drug distribution. In this regard, of the 611 hard-core adolescent offenders interviewed in this study, only 1.8 percent (n=11) were gang members at the time of interview, and only 2.5 percent (n=15) were former members. As to why *not*, a 17-year-old black male commented in 1989:

> The gangs in this town are just not where it's at. They're kid stuff. Most of 'em are just "tag crews," markin' up the buildings with graffiti, bein' macho about when and where the next fight'll be, and struttin' for the ladies . . . Crime-wise some are doin' shotgun robberies, but most of it is snatchin' purses and gold chains from the old Jews in South Beach or from neighborhood geeks . . . If you want to make some money ya don't have time for that —.

Third, although Miami received international attention during the early 1980s because of the number of drug-related homicides, much has changed in the years hence. The worst year for murders in Miami was 1981, with a total of 621. As indicated in table 9, the homicide rate has dropped by almost a third since then. The violence earlier in the decade was related primarily to Miami's cocaine wars (Gugliotta and Leen 1989; Eddy et al.

1988). For years, the balance of power in the cocaine-trafficking hierarchy had been on a relatively even keel. Colombians bought coca paste in Bolivia and Peru, processed it into powder cocaine in their own country, and shipped it north to Miami, where Cuban middlemen distributed it locally, or transhipped it elsewhere. Beginning in the late 1970s, however, the Colombians decided to cut out the middlemen and take over cocaine distribution in South Florida. The struggle reached its peak in Miami during 1981, with the Colombians winning the takeover.

TABLE 9. *Miami and combined Miami and Dade County homicide rates per 100,000 population*

Year	City of Miami	Miami and Dade County MSA
1981	58.8	34.5
1982	51.9	29.7
1983	38.4	22.2
1984	42.4	23.7
1985	33.9	21.8
1986	37.3	21.6
1987	33.2	20.1
1988	42.5	24.6
1989	40.5	23.8

SOURCE: Federal Bureau of Investigation 1988; *Miami Herald* 1989.

Currently, Miami and Dade County police officials estimate that perhaps one-third of the county's homicides are drug related, with the balance of either "other felony" or domestic origin. If so, it would appear that Miami's crack distribution networks may be "kinder and gentler" than elsewhere.

Fourth, although crack distribution by hard-core adolescent offenders in Miami may not reflect the gang-related violence that has been suggested in Los Angeles, it is nevertheless highly criminogenic. As the data in this paper have demonstrated, young crack dealers commonly violate not merely drug laws, but also those protecting persons and property. Moreover, the more anyone is involved in the crack business, the more crimes that person commits. As indicated in table 10, for example, those in the dealer+ group averaged 63.9 percent major felonies per offender compared to 42.4 percent for crack dealers, 8.2 percent for those involved in minor sales, and 8.9 percent for those not involved in the crack distribution network.

TABLE 10. *Crimes and arrests during the 12-month period prior to interview by crack business involvement among 234 Miami and Dade County hard-core adolescent offenders*

	Crack Business Involvement				Total
	None (n=50)	Minor (n=20)	Dealer (n=138)	Dealer+ (n=46)	Sample (n=254)
Number Done					
Major Felonies	444	164	5,857	2,938	9,403
Property Offenses	5,479	3,937	32,360	10,203	51,979
Drug Business	9,785	6,630	70,365	49,766	136,546
Vice Offenses	3,115	2,020	18,006	2,370	25,511
Total Offenses	18,823	12,751	126,588	65,277	223,439
Mean Number Per Subject					
Major Felonies	8.9	8.2	42.4	63.9	37.0
Property Offenses	109.6	196.9	234.5	221.8	204.6
Drug Business	195.7	331.5	509.9	1,081.9	537.6
Vice Offenses	62.3	101.0	130.5	51.5	100.4
Total Offenses	375.9	637.6	917.3	1,419.1	879.6
Percent Arrested For:					
Major Felonies	6.0	10.0	17.4	26.1	16.1
Property Offenses	30.0	25.0	46.4	32.6	39.0
Drug Business	46.0	90.0	76.1	58.7	68.1
Vice Offenses	4.0	5.0	6.5	2.2	5.1
Any Offense	64.0	100.0	94.9	84.8	87.4

In the final analysis, it would appear from tables 6, 7, 8, and 10 collectively that a somewhat more deviant group of youths is drawn into crack distribution, and, further, that participation in the crack trade facilitates crack addiction.

FOOTNOTES

1. "Index" offenses, in the FBI's *Uniform Crime Reports,* include criminal homicide, forcible rape, aggravated assault, robbery, burglary, larceny/theft, motor vehicle theft, and arson.

2. The perpetrator of these executions, sampled for the study in 1987, was interviewed by the author 2 years hence, in early 1989. A black male and high school drop-out, the perpetrator was 17 years of age at the time of the homicides. In his neighborhood, he had the reputation of being an aggressive youth who had been arrested on several occasions for serious assaults. Local crack-using informants never doubted his assertions about the 1987 killings. In fact, they claimed that from 1986 through early 1989 he was responsible for at least four killings in the Miami and Dade County drug community.

3. Only 15 percent of the sample were females (n=38). They were distributed in the crack business categories as follows: "None" (n=13), Minor (n=1), "Dealer" (n=22), and "Dealer+" (n=2).

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REFERENCES

Dade County Grand Jury. *Dade Youth Gangs.* Final Report of the Grand Jury, May 14, 1985.

Dade County Grand Jury. *Dade County Gangs–1988.* Final Report of the Grand Jury, May 11, 1988.

Drug Enforcement Administration. *Crack/Cocaine Overview 1989.* Washington, DC: U.S. Department of Justice, Drug Enforcement Administration, 1989.

Eddy, P.; Sabogal, H.; and Walden, S. *The Cocaine Wars.* New York: W.W. Norton, 1988.

Elliott, D.S.; Huizinga, D.; and Ageton, S.S. *Explaining Delinquency and Drug Use.* Beverly Hills, CA: Sage, 1985.

Federal Bureau of Investigations. *Uniform Crime Reports 1981-1987.* Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1985.

Gugliotta, G., and Leen, J. *Kings of Cocaine.* New York: Simon and Schuster, 1989.

Inciardi, J.A. *The War on Drugs: Heroin, Cocaine, Crime, and Public Policy.* Palo Alto, CA: Mayfield, 1986.

Inciardi, J.A. Beyond cocaine: Basuco, crack, and other coca products. *Contemp Drug Probl* 14:461-492, 1987.

Inciardi, J.A., and Pottieger, A.E. Drug use and crime among two cohorts of women narcotics users. *J Drug Issues* 16:91-106, 1986.

McBride, D.C., and McCoy, C.B. Crime and drug using behavior: An areal analysis. *Criminology* 19:281-302, 1981.
McCoy, C.B.; McBride, D.C.; Russe, B.R.; Page, J.B.; and Clayton, R.R. Youth opiate use. In: Beschner, G.M., and Friedman, A.S., eds. *Youth Opiate Use: Problems, Issues, and Treatment.* Lexington, MA: Lexington Books, 1979. pp. 353-375.
Miami Herald. July 3, 1988. pp. 1B, 3B.
Thornberry, T.P.; Moore, M.; and Christenson, R.L. The effect of dropping out of high school on subsequent delinquent behavior. *Criminology* 23:3-18, 1985.
Washington Post. August 30, 1989. pp. A1, A20.

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The Relationship Between Cocaine Use, Drug Sales, and Other Delinquency Among a Cohort of High-Risk Youths Over Time

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INTRODUCTION

The relationship between drug use and delinquency or crime continues to be a critical research and policy issue. Research has consistently found: (1) a strong relationship to exist between drug use and crime in different samples of adults entering the criminal justice system (Chaiken and Chaiken 1982; Wish 1987; Wish and Johnson 1986; Wish and Gropper 1989) and (2) that criminal behavior increases following addiction and arrests for drug offenses and property offenses decline with decreasing drug use (Ball et al. 1981; Johnson et al. 1985; Anglin and Speckart 1988).

On the basis of early findings from urine testing indicating a drugs–crime connection among adult arrestees (Wish et al. 1980; Toborg 1984), the National Institute of Justice (NIJ) initiated a Drug Use Forecasting Program (DUF) (National Institute of Justice 1988). The DUF program seeks to obtain periodic systemic urine test data on samples of arrestees in various U.S. cities for epidemiological and planning purposes.

Until recently, relatively few studies have used urinalysis to examine systematically the link between drug use and crime among youths entering the juvenile justice system. These youths, whose problem behavior in the community has brought them into contact with the legal system, often are experiencing multiple problems (Dembo et al. 1987a; Dembo et al. 1988). Findings from urine testing of juvenile detainees in different cities have identified high rates of recent drug use (Dembo et al. 1987b; Boyer and McCauley 1988; Pennell 1988). Although the DUF program has found

regional differences in recent drug use among juvenile arrestees, urine test results consistently identify traces of cannabinoids and, secondarily, cocaine, in the specimens of youths.

Particularly disturbing are indications that the rate of cocaine use is increasing among youths tested in Tampa (Dembo et al., in press[c]) and in Washington, DC (Boyer and McCauley 1988). This trend in increased cocaine use parallels that found among adult arrestees in Manhattan (Wish 1987).

In addition, urine test studies of juvenile arrestees indicate that youths who are involved with cannabinoids and cocaine have more serious delinquency histories than youths who have not recently used these drugs (Dembo et al. 1987b; Dembo et al., in press[a]). These findings parallel those obtained in the studies of adult arrestees referred to earlier. Further, a study of the short-term recidivism of the youths involved in our longitudinal project (Dembo et al., in press[d]) found that youths determined to be urine positive for recent cocaine use at initial interview were significantly more likely to have one or more referrals to juvenile court or arrests as an adult for property misdemeanor offenses during the subsequent 18 months than youths not found to have recently used this drug (51 percent vs. 33 percent, respectively).

THE IMPORTANCE OF DRUG SALES IN UNDERSTANDING THE DRUGS–CRIME CONNECTION

Recent studies have documented the important role played by drug sales in the criminal behavior patterns of youths and adults. Chaiken and Chaiken (1982) found this among the prison and jail inmates they studied. In addition, Chaiken and Johnson (1988) identified adolescents who sell drugs, particularly those who are heavily involved in drug use themselves and engage in other crimes, to be a very high-risk group for future criminality.

Drug use and delinquent behavior among inner-city youths, particularly black males, can often be traced to factors (stressors) that result in these youths having little stake in conventional society (Dembo 1988; Gibbs 1984; Brunswick 1988). These stressors include poverty; educational difficulties, including poor performance in school and lack of communication with educational authorities; high rates of unemployment; large percentages of babies born out of wedlock; high infant mortality rates; and a high rate of suicide among black teenagers (Gibbs 1984). Involvement with drugs, particularly hard drugs among urban youths, is less a consumption or recreational behavior than an occupational and career track for these youths (Preble and Casey 1969). Inciardi and Pottieger's (in press) study of serious delinquent youths in Miami found high rates of drug use among them, with almost all of the youths having some involvement in the crack business. For these

youths, the crack trade has a strong attractiveness as a lifestyle and career track.

An important, remaining research topic concerns the relationship between youths' cocaine use, involvement in drug sales, and participation in other delinquent behavior over time. Longitudinal inquiries are methodologically superior to cross-sectional studies in their ability to address a "broader range of causal and developmental questions" (Blumstein et al. 1988, p. 28). The time sequence of events can be determined more precisely; and, because each person acts as his or her own control, longitudinal data are better able to control for the influence of extraneous variables.

This chapter reports some results of an ongoing longitudinal study of a cohort of youths who entered a detention center in Tampa, FL, between December 1986 and April 1987. A structural model of the relationships between the youths' cocaine use (measured by self-report and urine test data), involvement in drug sales, and other delinquent behavior over time is examined.

The data set examined is particularly important because many of the youths were in a transition state as far as their use of cocaine was concerned. The rate of cocaine-positive urine tests more than doubled during the followup period. Hence, these data provide a good opportunity to examine the dynamics linking their cocaine use, participation in drug sales, and other delinquent behavior. The chapter ends with a discussion of the theoretical and policy implications of the results.

THE STRUCTURAL MODEL

Figure 1 illustrates the three parallel structural models we examined for three categories of delinquent behavior: index offenses, general theft crimes, and crimes against persons. Consistent with the literature we have reviewed, the model represents the youths' cocaine use and drug sales as distinct, but interrelated, experiences at each time period covered by the study and over time. In particular, cocaine use, drug sales, and other delinquent behavior are each specified to relate to themselves over time.

In addition, crossover effects linking cocaine use at T1 to drug sales and other delinquent behavior at T2, and effects connecting drug sales at T1 to cocaine use and other delinquency at T2 are hypothesized. This set of expected relationships reflects the literature that indicates a drugs–crime connection among high-risk youths who are involved in cocaine use.

METHOD

The data were collected in the second phase of an ongoing longitudinal study, which was funded jointly by NIJ and the Office of Juvenile Justice

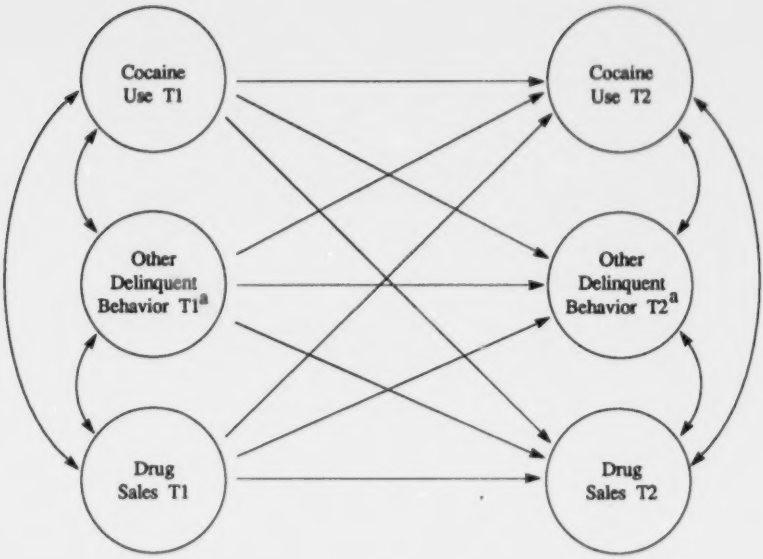

FIGURE 1. *Model of the relationship between cocaine use, drug sales, and other delinquent behavior over time*

[a]Refers to self-reported participation in index offenses, general theft crimes, or crimes against persons.

and Delinquency Prevention (OJJDP). The general purpose of the study is to test methods for identifying youths at high risk for future drug use, delinquency, or criminal behavior. The interview data were gathered at two points in time.

Initial Interviews

As discussed in more detail elsewhere (Dembo et al., in press[b]), initial interviews were completed with 399 unduplicated (that is, each was interviewed only once regardless of times admitted), Florida-resident detainees admitted to a regional detention center in Tampa. All agreed to participate and were not transferred to the center from another secure facility. All female detainees and a random half-sample of the males were invited to take part in the study. We achieved an extremely high level of cooperation in the interviews: the interview success rate was 98 percent.

Most of the youngsters entering the detention center were admitted for a new arrest charge (62 percent). In almost all cases, the interviews, which

were voluntary and protected from subpoena or use in any civil or court proceedings, took place within 48 hours of admission. Each detainee was paid $10 for the 1 1/4-hour interview. In addition, each interviewed youth provided a voluntary urine specimen for analysis.

Followup Interviews

As reviewed in more detail elsewhere (Dembo et al., in press[c]), an interview strategy was developed that gave each youth a 4-month window in which to be reinterviewed. We completed 305 interviews (236 males and 69 females) for a total completion rate of 76.4 percent.

However, we did not have the resources to track and reinterview youths who had moved out of State. In addition, we did not seek to reinterview youths who had pickup orders (or warrants for their arrest) on them. This was based primarily on our concern for the safety of the interviewers and secondarily on the difficulties caused by reinterviewing these youths without reporting their whereabouts to the police (because of our pledge of confidentiality). Hence, our net reinterview success rate, which excludes youths not eligible for reinterview, was 88.9 percent.

The youths were reinterviewed in a variety of locations: in the community (55 percent), in a detention center following arrest or admission by court order (14 percent), in a county jail (8 percent), while resident in a detention center or juvenile commitment program (12 percent), in a Department of Corrections facility (10 percent), and in other locations (a psychiatric facility, general hospital, or children's home) (2 percent). Each youth was paid $25 for the 1 1/4-hour interview.

As noted above, 210 of the 305 youths (69 percent) were reinterviewed in the community or in a detention center following arrest or admission by court order. Voluntary urine specimens were collected from 201 (96 percent) of these youths. Since a major purpose of the analyses was to assess the usefulness of urinalysis in predicting the youths' delinquency and drug use over time, these 201 youths were the focus of study.

Comparison of the 201 Youths With the Other Youths in the Study

A discriminant analysis was performed comparing the 201 reinterviewees for whom we had initial interview and followup interview urine test data with the other 198 youths in the study to learn if there were any important differences between the two groups. Analysis found the two groups were similar in regard to their sociodemographic characteristics, referral histories, alcohol and other self-reported drug use, mental health factors, and enzyme multiplied immunoassay technique (EMIT) urine test results probing for the presence of cannabinoids and cocaine at initial interview. However, when compared to the 94 youths who were incarcerated at followup interview, we

found incarcerated youths had significantly more prior arrests for property felonies, property misdemeanors, public disorder misdemeanors, and drug felonies. Since drug users tend to engage in property crimes, it is possible the incarcerated youths, from whom we did not obtain followup interview urine specimens, are more serious drug users. Hence, our findings may underestimate the true level of drug use among detainees over time and its relationship to criminality.

Demographic Characteristics

Most of the 201 youths were male (74 percent) and Anglo (54 percent); 38 percent of the detainees were black. They averaged 16 years of age (range 10 to 18 years). The youths came from families of low to moderate socioeconomic status.

Referral History Information

At first interview, many of the youths had already had extensive previous contact with the juvenile court. Of the youths, 64 percent had been referred to juvenile court at least once for felony property offenses, and 22 percent were referred four or more times for these offenses. Half of the youths were referred one or more times for felony violence offenses. A quarter of the 201 youths were referred at least once for neglect (28 percent) or physical abuse (24 percent) (Dembo et al., in press[a]).

Cocaine and Other Illicit Drug Use

Self-Reported Drug Use Prior to Initial Interview. A number of questions on drug use were adopted from the National Institute on Drug Abuse (NIDA) national survey on drug abuse (National Institute on Drug Abuse 1985) to determine the youths' nonmedical use of nine categories of illicit drugs: (1) marijuana or hashish, (2) inhalants, (3) hallucinogens, (4) cocaine, (5) heroin, (6) barbiturates and other sedatives, (7) tranquilizers, (8) stimulants, and (9) analgesics. The youths reported their frequency of use of each drug with regard to 1 of 7 use categories: never used, used 1 or 2 times, used 3 to 5 times, used 6 to 10 times, used 11 to 49 times, used 50 to 99 times, used 100 to 199 times, or used 200 or more times.

As discussed in more detail elsewhere (Dembo et al., in press[d]), the youths reported relatively high lifetime frequencies of marijuana or hashish and cocaine use during their initial interviews. In particular, 24 percent of the youths claimed to have used marijuana or hashish 100 or more times in their lives; 18 percent noted they used cocaine 11 or more times in their lifetimes.

Self-Reported Drug Use During the Followup Period. During their followup interviews, the youths were asked about their frequency of drug use during the followup period in regard to the same frequency of use categories employed during their initial interviews. As discussed in detail elsewhere (Dembo et al., in press[b]), the youths continued to report relatively high frequencies of the use of marijuana or hashish and cocaine. In particular, 18 percent of the youths reported they had used marijuana or hashish, and 9 percent claimed they used cocaine 100 or more times since their initial interviews. Little use of the other categories of drugs was reported.

Self-reported frequency of use of cocaine (as well as the other categories of illicit drugs) during the followup period was not corrected for time at risk. This could have been done by dividing the times of use by the proportion of time at risk. However, the responses to these variables were categorical. This refinement would not increase the score assigned to a response already in the top category or change "no use" into use on one or more occasions. Previous analysis found that fewer than a quarter of the youths had time at risk small enough to increase the categories of their scores if they were in intermediate categories.

Urine Testing for Recent Cannabinoid or Cocaine Use. The youths' urine test results were used as a key measure of drug use. We used a threshold level of 20 nanograms per milliliter of urine to identify a youth as positive on recent cannabinoid use (Schwartz et al. 1987). The threshold for a positive for PCP was 75 nanograms per milliliter of urine; the threshold for a positive for the other drug categories was 300 nanograms per milliliter of urine.

We performed split-urine testing of systemic samples of the specimens provided by the youths at the times of their initial and followup interviews involving two separate laboratories. Near perfect consistency rates were obtained (table 1).

At their initial interviews, 39 percent of the 201 youths were positive on at least one drug. Among the drugs tested for, cannabinoids was the most frequently identified substance followed, at a much lower level, by cocaine. Although we tested for the presence of alcohol, very few positives were found.

At the time of their followup interviews, 50 percent of the 201 youths were positive on one or more drugs. The cocaine-positive rate at followup interview (19 percent) was more than double the rate at initial interview (9 percent). The cannabinoid-positive rate was about the same as in year 1.

The urinalysis data should be regarded as a conservative estimate of drug use among the youths. For example, snorted, powdered cocaine is sensitive

TABLE 1. *Uringlysis results for 201 youths at initial and followup interviews*

Results	Initial Interview		Followup Interview	
	Number	Percentage	Number	Percentage
No Drug Positives	123	61.2	101	50.2
One Drug Positive	69	34.3	84	41.8
Cannabinoids	60	29.8	58	28.9
Cocaine	9	4.5	25	12.4
Opiates	–	–	1	0.5
Two Drugs Positive	8	4.0	16	8.0
Cocaine and Cannabinoids	8	4.0	14	7.0
Opiates and Cannabinoids	–	–	2	1.0
Three Drugs Positive	1	0.5	–	–
Cannabinoids, Cocaine, and Opiates	1	0.5	–	–
Total	201	100.0	201	100.0

to urine testing for up to 48 hours. However, a number of youths admitted smoking "crack" cocaine, which metabolizes more quickly than powdered cocaine.

The same coding scheme was used to score the initial interview and follow-up interview urinalysis results. Youths who were found to be negative on cocaine were scored 0, whereas urine positive youths were scored 1.

Self-Reported Delinquent Behavior

Drawing upon the work of Elliott and his associates (Elliott and Huizinga 1984), we probed the youths' delinquent behavior in the year prior to their initial interview and inquired about their delinquent behavior during the followup period. On each occasion, the youngsters were asked how many times they engaged in 23 delinquent behaviors.

Based on the youths' claimed frequency of participation in the various delinquent acts, the following three summated indices were constructed of the youngsters delinquent involvement.

1. General Theft: stole a motor vehicle, stole something worth more than $50, bought stolen goods, stole something worth less than $5, stole

something worth between $5 and $50, broke into a building or vehicle, went joyriding.

2. Crimes Against Persons: committed aggravated assault, participated in gang fights, hit a teacher, hit a parent, hit a student, committed sexual assault, strong-armed students, strong-armed teachers, strong-armed others.

3. Index Offenses: Committed aggravated assault, committed sexual assault, participated in gang fights, stole a motor vehicle, stole something worth more than $50, broke into a building or vehicle, strong-armed students, strong-armed teachers, strong-armed others.

In addition, we constructed a *drug sales* index:

4. Drug Sales: sold marijuana or hashish, sold cocaine or crack, sold other hard drugs such as heroin or LSD.

High preinitial interview prevalence rates were found for index offenses (69 percent), crimes against persons (76 percent), general theft offenses (77 percent), and drug sales (27 percent). In addition, between 3 and 24 percent of the youths reported engaging in the offenses represented by the various scales 100 times or more—some reported many hundreds of offenses.

At their followup interviews, the youths reported relatively high prevalence rates (although lower than at initial interview) of engaging in the offenses summarized by the four scales: index offenses, 45 percent; crimes against persons, 54 percent; general theft, 51 percent; and drug sales, 29 percent. Further, between 3 and 20 percent of the 201 youths claimed to have engaged in the offenses represented by the various scales 100 or more times since their initial interview—with some youths reporting many hundreds of delinquent acts.

In regard to drug sales, claimed involvement in selling marijuana, hashish, and cocaine accounted for the vast majority of the drug sales. About 25 percent of the females and 20 percent of the males reported selling marijuana, hashish, and cocaine at least once during the year preceding their initial interviews and during the followup period. Less than 5 percent of the females and males indicated they sold other drugs such as heroin or LSD during any of these periods.

The observed range of responses on the self-reported delinquency scales was large at either interview, ranging from no activity at all to hundreds (and, in a few cases, thousands) of delinquent acts. Hence, as discussed in detail elsewhere (Dembo et al., in press[e]), we log transformed the numbers of offenses for each scale to the base 10. We interpreted the

differences between 1 and 10, 10 and 100, and 100 and 1,000 offenses as being comparable. "No activity" responses were assigned a score of −1. The self-reported delinquency followup data were adjusted for time at risk. According to the algorithm that was developed, the higher the score, the more frequent the delinquent behavior reflected in each index.

RESULTS

Analytic Strategy

The data analysis uses some of the newly available multivariate statistical methodology for ordinal, censored, and generally nonnormal data, which have been refined and strengthened in the PRELIS and LISREL-7 programs by Joreskog and Sorbom (1988; Joreskog and Sorbom 1989). The present analysis was based on matrices of polychoric and polyserial correlations and their asymptotic sampling variances and covariances. Estimation of the linear structural models was by weighted least squares (WLS), as implemented in LISREL-7. Use of the WLS method is advantageous with ordinal data because it produces robust chi-square fit statistics and correct standard errors for parameter estimates, even though the normality assumptions are often violated.

The LISREL-7 model consists of two parts. The measurement model refers to the relationship of the latent variables to the observed variables. The structural equation model contains the structural relationships among the latent variables; it includes the causal effects and the amount of unexplained variance among these variables. Our analysis proceeded in two stages. First, we examined the relationship of the observed variables to the theoretical or latent variables through the use of confirmatory factor analysis. Next, we estimated the relationships among the theoretical variables.

The chi-square test was used to test the fit of the measurement and structural models to the polychoric and asymptotic covariance matrices for the observed variables. A nonsignificant chi-square test provided evidence of an acceptable fit of the measurement model or structural model to the data.

Because reliable asymptotic variances and covariances of estimated variances cannot be produced in small samples, we were not able to use LISREL-7 to examine the relationships among the cocaine use and delinquency variables for the 53 females involved in the analyses. However, the data available for the female youths permitted insight into the level of cocaine use and delinquency differences between the males and females. The study of the polychoric correlation matrices of these variables for the females enabled us to draw some important conclusions regarding their interrelationships. These findings are discussed after the results for the males have been reviewed.

Measurement Model

The measurement model was examined in two steps. First, the relationships between the two indicators (self-report and urine test results) within each of the latent factors (cocaine use at two times) was examined, and the relationships of the indicators across the two latent factors were studied. The correlations between self-reported cocaine use and urinalysis test results for recent cocaine use were positive and of moderate magnitude for the male youths' initial (.478) and followup (.506) interviews. In addition, these variables were correlated positively across the two data gathering points (correlations ranged from .251 to .506, $\bar{x}$ correlation level=.408). These relationships are smaller in magnitude than those found in our analyses of the youths' marijuana- and hashish-use data (Dembo et al., in press[e]). The lower cocaine-use correlations appear to be a consequence of two factors: (1) relatively few youths (n=12) were found to be urine positive on cocaine at the time of their initial interviews, and (2) the youths were more reluctant to report the use of cocaine than marijuana or hashish (Dembo et al., in press[a]).

Second, we tested the fit of the measurement model to the data. This analysis tested the hypothesis that there are two correlated latent factors in the data. Even though the measurement model is small, it can be tested against the unrestricted correlation matrix with 1 degree of freedom. Since this test remains nonsignificant [$\chi^2(1)=0.24$, $p=.63$, root mean square residual=.026], the two-factor model was included in the structural analysis.

Structural Equation Model

We examined the fit of the model shown in figure 1 to three cocaine-use and self-reported delinquency covariance matrices. In each of these analyses, the same cocaine-use variables and self-reported drug sales scale were used; however, on each occasion, a different self-reported delinquency scale was studied.

Cocaine Use and Drug Sales. We first estimated the model shown in figure 1, but without any other delinquency, using the two measures of cocaine use and drug sales across the two data collection periods. As figure 2a shows, the fit of the structural model to the data was acceptable [$\chi^2(5)=2.23$, $p=.82$]. The model adequately explains the matrix data, and, consequently, the residuals are small (root mean square residual=0.056). The loadings for the measurement model are moderate in magnitude and statistically significant.

The paths for the structural model, shown in figure 2a, indicate that significant relationships exist between (1) cocaine use as measured at initial interview and self-reported frequency of engaging in drug sales during the preceding year, and (2) cocaine use as measured at followup interview and

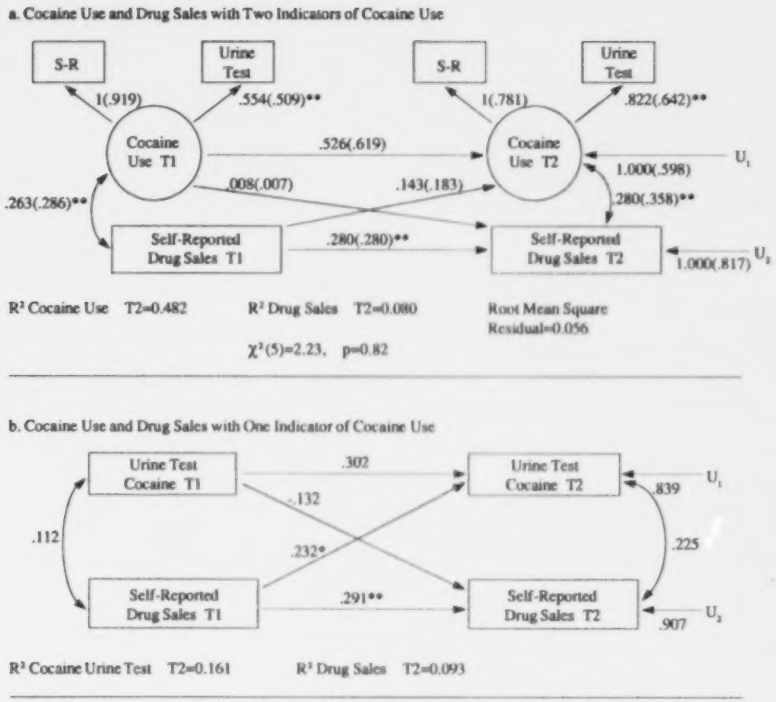

FIGURE 2. *The relationship between cocaine use and engaging in drug sales over time, involving two-indicator and one-indicator measures of cocaine use, among male youths*

*p<.05 (one-tailed test).
**p<.05 (two-tailed test).

claimed drug sales during the followup period. In addition, a significant time 1 (T1) to time 2 (T2) relationship exists for drug sales.

In a further analysis, we examined the influence of race (black vs. nonblack (predominantly white)) on the measures shown in figure 2a. This model allowed for the possibility that race is a common additional predictor of all the measures. The results of this analysis produced a significant chi square [$\chi^2(7)=16.19$, $p=.02$], indicating a poor fit of the model to the data. Inspection of the polychoric correlation matrix of these variables indicated that white males reported more frequent use of cocaine at the time of their initial interviews (−.385, n=148, p<.001) and during the followup period

(−.239, n=148, p<.01), whereas black males had a higher urine test cocaine-positive rate at initial interview (.249, n=148, p<.01) and followup interview (.329, n=148, p<.001).

Further analyses illuminated this issue. Of the white males, 69 percent found to be urine positive for cocaine at followup interview, compared to 39 percent of the black males, reported they had used cocaine one or more times during the followup period.

In view of these results and the greater validity associated with the urine test findings compared to self-reported cocaine use the model was refitted to the data using the urine test results as the only indicator of cocaine use at the initial and followup interviews. The results of our estimation of this just-identified model are shown in figure 2b. As can be seen, statistically significant, positive relationships exist between (1) self-reported involvement in drug sales in the year prior to initial interview and during the followup period and (2) claimed participation in drug sales at T1 and being urine positive for cocaine at followup interview. These results point to an important dynamic underlying the males' increasing involvement in cocaine use over time, which will be discussed later.

In a subsequent analysis of these data, we examined the influence of race on the measures shown in figure 2b. The results indicated there were no mean ($\bar{x}$) level differences for black vs. white youths on all measured variables. In view of these results, subsequent analyses employed only the urine test results.

Cocaine Use, Drug Sales, and Other Delinquent Behavior. Parallel analyses of the data were performed, which separately included general theft crimes, index offenses, and crimes against persons during the followup period in the model. The results, shown in figure 3, highlight a number of important relationships. Self-reported involvement in general theft offenses, crimes against persons, and drug sales in the year preceding initial interview (T1) relates significantly and positively to engaging in each respective delinquent behavior during the followup period (T2). At each time period, claimed participation in general theft offenses and index crimes is significantly and positively associated with engaging in drug sales; in addition, engaging in crimes against persons is significantly and positively associated with involvement in drug sales in the year preceding the youths' first interview.

Three important crossover effects are highlighted in figures 3a and 3b. Involvement in crimes against persons in the year prior to initial interview was significantly and positively related to engaging in drug sales during the followup period (figure 3b). Of particular note, participation in drug sales during the 12 months preceding initial interview is significantly and positively related to cocaine use (as measured by the urine test results) at followup interview (figures 3a and 3b).

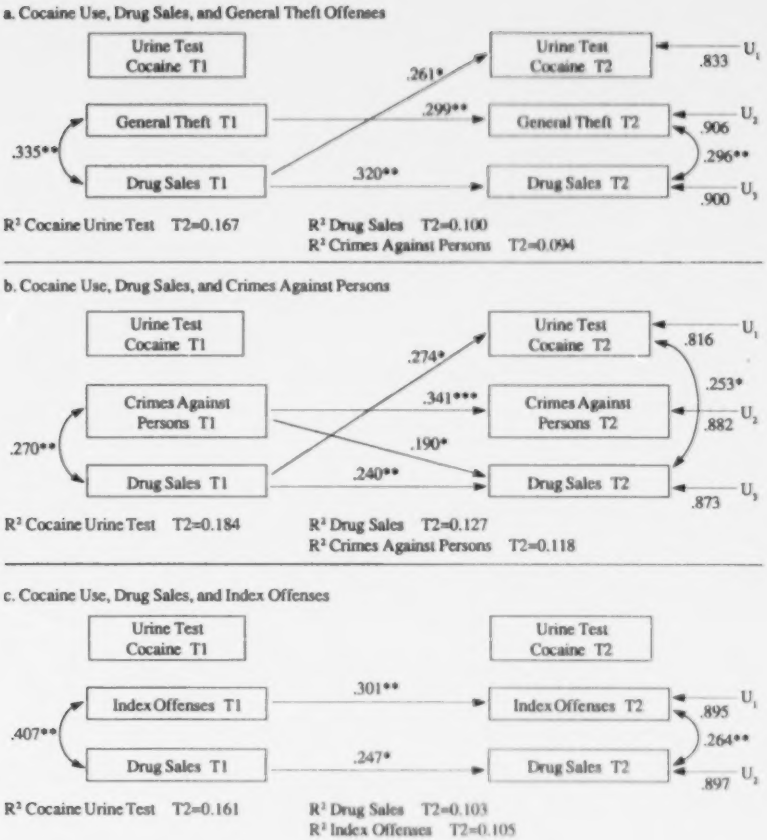

FIGURE 3. *The relationships among cocaine use, engaging in drug sales, and other delinquent behavior over time among male youths*

*p<.05 (one-tailed test).
**p<.05 (two-tailed test).

The absence of significant relationships (with one exception) at each data collection point between cocaine use, drug sales, and other delinquent behavior; between cocaine use over time; and between cocaine use as measured at initial interview and drug sales and other delinquent behavior during

the followup period seems contrary to theoretical expectations. These findings will be elaborated on.

Racial Group Differences

In further analyses of the data, we examined the influence of race (black vs. nonblack (predominantly white)) on the measures shown in figures 3a, 3b, and 3c. The results indicated there were no mean ($\bar{x}$) level differences for black vs. white youths on all measured variables.

Comparison of the polychoric correlation matrices of the cocaine use, drug sales, and other delinquency variables for the black and white males showed that, for both groups, moderately high and positive relationships existed between self-reported drug sales and claimed involvement in general theft crimes, crimes against persons, and index offenses in the year prior to initial interview and between drug sales and other delinquent activities during the followup period. Further, black and white males had correlations of similar form and not substantially different magnitude between the urine test results for cocaine at initial interview, reported drug sales in the year prior to first interview and during the followup period between the urine test results for cocaine at followup interview and reported drug sales during the followup period. Although their magnitude differed, for both black males and white males the correlations between the urine test results for cocaine at the initial and followup interviews and claimed involvement in general theft crimes, crimes against persons, and index offenses in the year prior to initial interview and during the followup period were near zero or negative—with one exception. Among white youths, positive relationships were found between the urine test results for cocaine at the initial and followup interviews and self-reported involvement in index offenses in the year preceding first interview; among black youths, these relationships were negative.

One important correlation difference between the black and white male youths is worthy of special note. The polyserial correlation between self-reported drug sales in the year preceding initial interview and the urine test results for cocaine at followup interview was substantially higher for the white males (.447) than for the black males (.025).

Gender Group Differences

Chi-square and t-test comparisons of male–female involvement in cocaine use (involving separate study of the self-report and urine test results) and delinquent behavior found few significant differences between the two groups. Male youths reported a greater participation in general theft offenses ($t=-3.21$, $df=102.77$, $p<.01$) and in index offenses ($t=-2.50$, $df=104.80$, $p<.05$) during the year preceding their initial interviews than did females. On the other hand, females reported a significantly greater

frequency of cocaine use during the followup period ($t=2.16$, $df=68.91$, $p<.05$). The females' use of cocaine, particularly during the followup period, was significantly related to their involvement in prostitution (self-reported cocaine use, .600, $n=53$, $p<.001$); urine positive for cocaine, .534, $n=53$, $p<.001$).

More insight into the relationship between cocaine use and involvement in delinquency for the females is provided by examination of the polychoric correlation matrices of these variables. Although the pattern of correlations among the variables studied was similar to the results for the male youths, in general, higher, positive correlations were found for the females. (Tables reporting these polychoric correlations are available from the senior author upon request.)

In addition, no patterned ethnic group differences exist between the self-reported cocaine use and urine test results at the initial and followup interviews. White females reported greater frequency of cocaine use during their lifetimes preceding their initial interviews and during the followup period and had a higher urine-positive rate at followup interview than black females had.

The Influence of Socioeconomic Status

The socioeconomic status of the youths' households had low or near zero magnitudes of association with the marijuana-use and delinquency variables. In addition, 15 percent of the cases had missing or uncodable information on this variable, making this variable a poor candidate for the analyses such as those involving the variable of race.

DISCUSSION

On the whole, the hypothesized model of the relationships between cocaine use, as measured by urine test results, drug sales, and other delinquent behavior over time was consistent with the data. A significant, positive relationship was found between engaging in drug sales in the year prior to first interview and during the followup period. Involvement in drug sales in the year prior to initial interview and during the followup period was significantly and positively related to engaging in general theft and index offenses during each time period. In addition, crimes against persons were significantly and directly related to engaging in drug sales during the 12 months preceding initial interview and during the followup period, and person crimes at T1 were indirectly associated with cocaine use at followup interview through reported drug sales at T1 and during the followup period. This web of relationships highlights the systemic violence (Goldstein 1985) affecting the lives of many of the male youths in our study.

Goldstein (1985) argues that drugs and violence are related to one another in three possible ways: (1) psychopharmacologic, in which people may engage in irrational or violent actions as a result of the short-term or long-term effects of using specific drugs, e.g., alcohol or PCP; (2) economic compulsive, in which some drug users pursue economically oriented violent crime, such as robbery, to acquire income to support their costly drug habits; and (3) systemic, referring to the traditionally violent patterns of interaction involved in the system of drug distribution and use, e.g., battles over territory between rival drug dealers, elimination of informers. Systemic violence has been found to be a significant factor in a large proportion of homicides in New York City, New York State (Goldstein 1987), and Washington, DC (Office of Criminal Justice Plans and Analysis 1988).

Participating in drug sales in the year prior to initial interview was significantly and positively associated with being urine positive for cocaine at the time of followup interview (figures 3a and 3b). This finding suggests that involvement in drug distribution is an activity at high risk of resulting in a deepening, personal involvement in cocaine use over time. This process appears to be more powerful among the male youths in our study than among the females. The cocaine-positive urine test rates for the females in our study were similar at the initial and followup interviews (11 percent and 15 percent, respectively). On the other hand, the male youth cocaine-positive rate more than doubled between the first and second interviews (8 percent vs. 21 percent, respectively).

On the surface, it may seem surprising that being urine positive for cocaine at T1 is not significantly related to engaging in drug sales during the 1-year preinitial interview period and to being cocaine positive at the followup interview—even though there are positive associations between these two pairs of variables. Close examination of the data provides a cogent picture accounting for this situation. First, the rate of cocaine positives was quite low at T1, with only 12 of the male youths having traces of this drug in their urine specimens. In contrast, 31 male youths were found to be cocaine positive at followup interview. Second, a number of youths who claimed they were involved in drug sales at the time of their initial interviews reported they would not use cocaine. They attributed this reluctance to use cocaine to two key factors: (1) cocaine users were unreliable drug dealers, who could not be trusted, and (2) a lack of desire to try the drug because of adverse consequences associated with being addicted to it. Most of the youths who were involved in drug sales regarded this activity as an occupation. Any experiences they regarded as likely to reduce their ability to survive in the tough street life were seen as extremely undesirable.

Nonetheless, our data suggest that, as the youths became more enmeshed in drug sales, they became personally involved in the use of the cocaine. Our results indicate that this is a major dynamic for the white males in our study. Ease of access to the drug and the pressures of the street-drug life

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probably play key roles in this process. In addition, further analysis showed that the use of crack cocaine became more popular between the youths' initial and followup interviews.

It is important to recognize that both the black and white youths in the study were involved in selling drugs, although there was a somewhat different emphasis in the drugs sold by the two groups of youths. About 25 percent of the white male youths admitted to selling marijuana or hashish during the year prior to their initial interviews or during the followup period, compared to 10 percent of the black youths. In contrast, black youths were more likely to sell cocaine during the year preceding their initial interview (22 percent) and during the followup period (29 percent) than the white youths during each of these time periods (8 percent and 10 percent, respectively).

Race was not found to affect the pattern of magnitude of the relationships depicted in figures 3a, 3b, and 3c. Further, the relationships among the variables in the model were similar across the two groups—with one important exception. Involvement in drug sales in the year preceding initial interview was more strongly related to being urine positive for cocaine at followup interview for the white males than the black males in our study. This finding points to an important topic for further research: the similarities and differences in cocaine–crime relationships over time for white and black youths and other minorities.

In this vein, it is important to stress the self-report bias in cocaine use we uncovered in our analyses. The white, male youths in the study reported more frequent use of cocaine than the black youths. Researchers pursuing studies similar to ours among comparable samples of youths should address this problem in their study designs (Hirschi et al. 1981).

Important gender group similarities and differences were found between the magnitude and patterns of relationships among cocaine use, engaging in drug sales, and other delinquent behavior over time. These findings were reviewed in detail earlier. More studies, involving youths of different ethnic and socioeconomic groups in different regions are needed to assess the generalizability of our findings and the structural model we tested. Research is particularly needed among high-risk youths, such as juveniles entering detention centers.

POLICY IMPLICATIONS

The persistence of relationships between drug sales and cocaine use over time among the youths we studied is disturbing and raises important policy issues. First, the data we have collected on these 201 youths indicate that many needed serious treatment intervention—especially to address their substance use difficulties. However, very few of them received such help for

any length of time during the followup period. Only 14 percent of the youths reported receiving any treatment for an alcohol or other drug misuse problem during the followup period. Among the 18 percent of the youths who were referred for evaluation for alcohol or other drug misuse treatment, only 22 percent reported receiving any treatment of this sort during the followup period.

During their followup interviews, many youths reported poignant experiences regarding their seeking help for a drug problem. Some youths claimed they were attending treatment on an outpatient basis and were abruptly terminated when their money ran out. Some youths claimed they and their families lacked the resources to pay for their treatment. Some youths entered programs and were terminated due to rule violations, returning to the streets to resume heavy drug use and delinquent activities. In addition, there were very few treatment program slots for adolescents in the community—particularly programs in the public sector.

Drug use among adult offenders is very high (Wish 1987; Wish and Johnson 1986; Wish and Gropper 1989); and, unfortunately, under the present circumstances, many of the youths in our project have already moved into the Florida Department of Correction (DOC) system. In the 24-month period following their initial interviews, 28.5 percent of the youths in our project had Florida DOC numbers[1], and many of these youths spent some time confined in a DOC institution. We need to expend a serious effort to break this cycle of events by investing in quality intervention programs for troubled youths.

Second, the youths we studied became involved in drug sales for a variety of reasons. Social policy needs to be informed by these differences in experiences if effective intervention is to be made with this problem. Similar to the pattern Inciardi and Pottieger (in press) uncovered among the seriously delinquent Miami youth they studied, many youths in our project found the drug business attractive as a lifestyle in the classic Preble and Casey (1969) sense. That is, the drug subculture provided a feeling of excitement revolving around the experiences of hustling, "ripping and running," and the "cops and robbers" nature of the street life. Drug sales, particularly crack sales, are very seductive. There is a great demand for crack cocaine, the profits are considerable, and the drug business provides for upward mobility in a career line. For these youths, there are no other viable options for "making it" in their milieu. (It is important to note that there may be regional differences in the profit involved in selling crack cocaine. For example, in New York City, the goal of riches from the crack trade is more myth than reality (*New York Times*, November 26, 1989: 1, 42; Bourgois, in press).

Another group of youths in our study regarded the drug business as a risky but profitable way to survive (by which they usually mean a way of life

that provides an income permitting them to meet their material and status needs) in their environment. Having limited educational skills, few employment skills, yet needing to satisfy their personal and family's needs for food, shelter, and material comforts, these youths are vulnerable to becoming involved in drug sales. Many youths realize that, if they are arrested on a felony drug charge on more than one occasion, they may spend time in a commitment program or, as is increasingly the case, be directly filed to adult court for prosecution. Further, many of these youths regard drug sales as a tough job, requiring vigilance against competitors and the youths who may sell drugs for them. Yet, in balance, these risks are perceived to be acceptable in the face of the paucity of alternate, socially and personally salutary options in their lives. Developing a point Brunswick (1988) first made in the context of her discussion of drug use among young black males, we must make meaningful, economically rewarding job training and counseling available to these youths. We cannot direct their energies away from the drug life by the promise of not being arrested or working in a fast food restaurant for $4 per hour. The risk of arrest for drug sales is relatively low on the streets, and many youths can make $500 a day selling drugs. Gainful employment opportunities must be provided. Otherwise, as Brunswick (1988) so effectively described the situation:

> . . . they must continue to listen to the beat of a different drummer and to look for alternative activities and experiences to attempt to satisfy what they share with all young people—needs for growth and self-actualization, for affiliation, for respect from others, for social belonging, and basic to all of these, for a source of material sustenance. (Brunswick 1988, p. 184)

The drug problem among the youths we studied is a product of the decades of social neglect these youths and their families have experienced. In many ways, the success of the war on drugs rests in increasing the stake of these youths (and their counterparts in other settings) in conventional society. We need to make available to these youths socially and personally rewarding educational and occupational options, which will enable them to enter and remain in mainstream society. The earlier we intervene in the lives of these youths, the more successful these efforts at change are likely to be.

FOOTNOTES

1. Based on official record followup of project youths.

REFERENCES

Anglin, M.D., and Speckart, G. Narcotics use and crime: A multisample, multimethod analysis. *Criminology* 26:197-233, 1988.

Ball, J.D.; Flueck, J.A.; and Nurco, D.N. The criminality of heroin addicts when addicted and when off opiates. In: Inciardi, J.A., ed. *The Drugs–Crime Connection.* Beverly Hills, CA: Sage, 1981.

Blumstein, A.; Cohen, J.; and Farrington, D.P. Criminal career research: Its value for criminology. *Criminology* 16:1-35, 1988.

Bourgois, P. In search of Horatio Alger: Culture and ideology in the crack economy. *Contemp Drug Probl,* in press.

Boyer, K.R., and McCauley, M. *1987 Juvenile Drug Use Trends and Findings.* Washington, DC: D.C. Pretrial Service Agency, 1988.

Brunswick, A.F. Young black males and substance use. In: Gibbs, J.T., ed. *Young, Black and Male in America: An Endangered Species.* Dover, MA: Auburn House, 1988.

Chaiken, J.M., and Chaiken, M.R. *Varieties of Criminal Behavior.* Santa Monica, CA: Rand, 1982.

Chaiken, M.R., and Johnson, B.D. *Characteristics of Different Types of Drug-Involved Offenders.* U.S. Department of Justice, 1988.

Dembo, R. Delinquency among black male youths. In: Gibbs, J.T., ed. *Young, Black, and Male in America: An Endangered Species.* Dover, MA: Auburn House, 1988.

Dembo, R.; Dertke, M.; Borders, S.; Washburn, M.; and Schmeidler, J. The relationship between physical and sexual abuse and tobacco, alcohol and illicit drug use among youths in a juvenile detention center. *Int J Addict* 23:351-378, 1988.

Dembo, R.; La Voie, L.; Schmeidler, J.; and Washburn, M. The nature and correlates of psychological/emotional functioning among a sample of detained youths. *Crim Justice Behav* 14:311-334, 1987a.

Dembo, R.; Washburn, M.; Wish, E.D.; Schmeidler, J.; Getreu, A.; Berry, E.; Williams, L.; and Blount, W.R. Further examination of the association between heavy marijuana use and crime among youths entering a juvenile detention center. *J Psychoactive Drugs* 19:361-373, 1987b.

Dembo, R.; Williams, L.; Berry, E.; Getreu, A.; Washburn, M.; Wish, E.D.; and Schmeidler, J. Examination of the relationships among drug use, emotional/psychological problems, and crime among youths entering a juvenile detention center. *Int J Addict,* in press[a].

Dembo, R.; Williams, L.; Berry, E.; Getreu, A.; Washburn, M.; Wish, E.D.; Schmeidler, J.; and Dertke, M. The relationship between physical and sexual abuse and illicit drug use: A replication among a new sample of youths entering a juvenile detention center. *Int J Addict* 23:1101-1123, 1988.

Dembo, R.; Williams, L.; La Voie, L.; Getreu, A.; Berry, E.; Genung, L.; Schmeidler, J.; Wish, E.D.; and Kern, J. A longitudinal study of the relationships among alcohol use, marijuana/hashish use, cocaine use and emotional/psychological functioning problems in a cohort of high risk youths. *Int J Addict* in press[b].

Dembo, R.; Williams, L.; Schmeidler, J.; Getreu, A.; Berry, E.; Genung, L.; Wish, E.D.; and La Voie, L. A longitudinal study of the relationships among marijuana/hashish use, cocaine use and delinquency in a cohort of high risk youths. *J Drug Issues,* in press[c].

Dembo, R.; Williams, L.; Schmeidler, J.; Getreu, A.; Berry, E.; Genung, L.; Wish, E.D.; and La Voie, L. Recidivism among high risk youths: Study of a cohort of juvenile detainees. *Int J Addict,* in press[d].

Dembo, R.; Williams, L.; Wothke, W.; Schmeidler, J.; Getreu, A.; Berry, E.; Wish, E.D.; and Christensen, C. Examining a structural model of the relationship between marijuana/hashish use and delinquency among a cohort of high risk youths over time. In: Taylor, R.L., ed. *Black Youth in America: Assessment of their Social and Economic Status* (tentative title). Beverly Hills, CA: Sage, in press[e].

Elliott, D.S. Personal communication on the SCL-90-R, 1986.

Elliott, D.S., and Huizinga, D. *The Relationship Between Delinquent Behavior and ADM Problems.* Boulder, CO: Behavioral Research Institute.

Gibbs, J.T. Black adolescents and youth: An endangered species. *Am J Orthopsychiatry* 54:6-21, 1984.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1985.

Goldstein, P.J. Impact of drug-related violence. *Public Health Rep* 102:625-627, 1987.

Hirschi, T.; Hindelang, M.J.; and Weis, J.G. *Measuring Delinquency.* Beverly Hills, CA: Sage, 1981.

Inciardi, J.A., and Pottieger, A.E. Kids, crack, and crime. *J Drug Issues,* in press.

Johnson, B.D.; Goldstein, P.J.; Preble, E.; Schmeidler, J.; Lipton, D.S.; Spunt, B.; and Miller, T. *Taking Care of Business: The Economics of Crime by Heroin Users.* Lexington, MA: Lexington Books, 1985.

Joreskog, K.G., and Sorbom, D. *PRELIS: A Preprocessor for LISREL.* Mooresville, IN: Scientific Software, Inc., 1988.

Joreskog, K.G., and Sorbom, D. *LISREL 7 User's Reference Guide.* Mooresville, IN: Scientific Software, Inc., 1989.

National Institute on Drug Abuse. *National Institute on Drug Abuse 1985 National Household Survey on Drug Abuse Questionaire.* Rockville, MD: the Institute, 1985.

National Institute of Justice. *National Institute of Justice Drug Use Forecasting (DUF).* Washington, DC: U.S. Department of Justice, the Institute, 1988.

New York Times. Despite its promise of riches, the crack trade seldom pays, November 26, 1989. pp. 1, 42.

Office of Criminal Justice Plans and Analysis. *Homicide in the District of Columbia.* Washington, DC: Office of Criminal Justice Plans and Analysis, 1988.

Pennell, S. *Drugs Among San Diego Juveniles.* San Diego, CA: San Diego Association of Government, 1988.

Preble, E., and Casey, J.J. Taking Care of Business: The Heroin User's Life on the Street. *Int J Addict* 4:1-24, 1969.

Schwartz, R.H.; Willette, R.G.; Hayden, G.F.; Bogema, S.; Thorne, M.M.; and Hicks, J. Urine cannabinoids in monitoring abstinence in a drug abuse treatment program. *Arch Pathol Lab Med* 111:708-711, 1987.

Toborg, M. Preliminary findings on the D.C. urine testing experiment. Presented at the Annual Meeting of the American Society of Criminology, Cincinnati, OH, November 1984.

Wish, E.D. *Drug Use Forecasting: New York 1984-1986.* Washington, DC: U.S. Department of Justice, National Institute of Justice, 1987.

Wish, E.D., and Gropper, B.A. *Drug Testing by the Criminal Justice System: Methods, Research and Applications.* Washington, DC: National Institute of Justice, 1989.

Wish, E.D., and Johnson, B.D. The impact of substance abuse on criminal careers. In: Blumstein, A.; Cohen, J.; Roth, J.A.; and Visher, C.A., eds. *Criminal Careers and Career Criminals.* Washington, DC: National Academy Press, 1986.

Wish, E.D.; Klumpp, K.A.; Moorer, A.H.; and Brady, E. *An Analysis of Drugs and Crime Among Arrestees in the District of Columbia.* Springfield, VA: National Technical Information Service, 1980.

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The Drug Use–Violent Delinquency Link Among Adolescent Mexican-Americans

W. David Watts and Loyd S. Wright

INTRODUCTION

Violence and drug use continue to concern social scientists, policy decision-makers, and the public. The level of violence apparently associated with drug use and sales implies an enduring link. Although Goldstein (1985) has identified three types of violence associated with drug use (psychopharmacological, economic compulsive, and systemic), little is known about the relationship between drug use and violence among juveniles, particularly Mexican-American youth.

Much of the work on drug use and violence (Inciardi, this volume; Dembo et al., this volume) is based on studies of arrested or inner-city youth. Although much self-report research examines drug use and delinquency by youth in school (Johnston et al. 1986), few studies report on violence and delinquency for both high school and adjudicated youth. Similarly, little is known about the drug use–violence connection for Mexican-American youth and its underlying factors.

The purpose of this chapter is to explore the relation between drug use and violence against both persons and property among a sample of Mexican-American adolescents in Texas. It is posited here that there is a relationship for adolescents between violence, against both persons and property, and drug use, particularly illegal drugs. Other factors predicted to be associated with self-reported violence, illicit drug use, and friends' drug use in this population include gender, incarceration, value orientation (beliefs and attitudes), social class, perceived parental rejection, parental supervision, physical abuse by a parent, and the use of alcohol, tobacco, and marijuana. Figure 1 displays the projected domain relationships between drug use and violence assumed in this chapter.

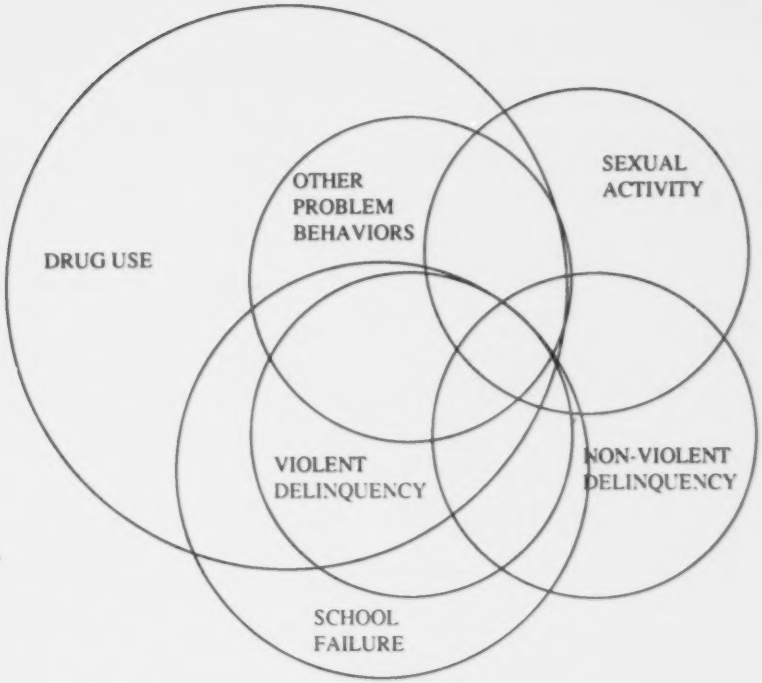

FIGURE 1. *Adolescent problem behaviors*

REVIEW OF LITERATURE

Violence and Drugs

Recent research suggests that there are common factors that underlie both drug use and delinquency (Carpenter et al. 1988; Elliott et al. 1985; Kandel et al. 1986; Newcomb and Bentler 1988), but that the underlying conditions associated with these behaviors vary from one ethnic group to another (Watters et al. 1985). From their findings, Watters and his associates concluded that additional research was needed into the drug use–violent delinquency relationship among members of different racial or ethnic groups.

Although it is recognized that juvenile problem behaviors are often drawn from a common domain (Jessor and Jessor 1977; Osgood et al. 1988), it does not necessarily follow that drug use and violence are duplicative phenomena. Other studies on drug use and violence have shown that there is

not an inherent, necessary, and direct relationship between the two behaviors (Carpenter et al. 1988). Although many studies of alcohol and violence have shown a link (whether biochemical or cultural is not at issue here), studies of other drugs, such as marijuana, have not shown a direct link with violence (Simonds and Kashavi (1980), however, found a very strong link). A stronger case can be made for the violence–crime connection with barbiturates, cocaine, heroin, and PCP use.

Friends' Drug Use

Kandel (1973; Kandel 1980) has consistently found the largest proportion of variance in drug use to be explained by the reported number of respondents' friends who use drugs. The annual national surveys by Johnston and his colleagues (Johnston et al. 1986), the Monitoring the Future Series (1982), and the Youth in Transition Studies (Bachman et al. 1978) have all provided support for Kandel's key finding. Other studies have examined the relative effects of parents, peers, and other environmental factors on drug use (Dembo et al. 1985; Johnson 1984). The overwhelming conclusion is that peer use is an important predictor of drug use. Perez et al. (1980) likewise found the number of peers using drugs to be one of the best predictors of drug use among a sample of Mexican-American youngsters.

Gender

Practically all researchers have found significant differences between males and females with respect to both illicit drug use and delinquency (Caetano 1987; Gilbert and Cervantes 1987; Guinn 1975; Holck et al. 1984; Newcomb et al. 1987). Perez et al. (1980) also found that gender (being male) was among the best predictors of both alcohol and drug use in the sample of Mexican-American youngsters they studied.

Family Dysfunction

Since the family is the primary agent of socialization in our society, it is not surprising that many investigators have focused on the family in their search for explanations of deviant behavior. McCord and McCord (1964) concluded from an extensive review of the literature that extreme parental rejection and lack of affection were the primary causes of antisocial behavior. Wilson and Herrnstein (1985), in their recent review of the literature, point out that parental rejection, neglect, and physical abuse have all been found to be related to aggressive behavior and delinquency.

John Bowlby (1973), author of the three-volume *Attachment and Loss,* notes that children who are exposed to almost constant rejection, neglect, or abuse often develop an "anger or despair" and feel enraged at the parent who has inflicted such intense pain or sense of loss. Such children usually feel a

need for attention from their parents on the one hand and anger toward them on the other. This combination often leads to outbursts of anger, which the parent may find difficult to ignore. Because aggression is difficult to ignore, it is often reinforced. Family attachments form a foundation from which youth experience commitment and involvement in social life.

In the study reported in this chapter, the three family-dysfunction variables investigated were parental rejection, parental supervision, and physical abuse by a parent. Adopted from Hirschi's (1969) conceptualization and application of control theory, these three variables reflect the degree of attachment to the family, the extent of parental supervision, and family emotional bonds. Youngsters who feel rejected or abused by their parents may decide to seek revenge for the pain they have experienced at the hands of their parents. Obviously, illegal drug use or any delinquent behaviors that embarrass the parents or cost them money would accomplish this goal. Parental neglect or lack of supervision, on the other hand, might lead the youngster to engage in deviant behaviors to force the parents to take notice. Drug use also may distract youth from the conflict they experience with their families by their involvement with peers and by the buffering or psychopharmacologic effects of drugs themselves.

Value Orientation and Socioeconomic Class

Several theories of delinquency view values as important links in the causal chain leading from conforming to criminal behavior (Cohen 1955). While these theories differ somewhat, they all tend to ascribe similar values to lower class gang delinquents. According to Cohen, "the hall-mark of the delinquent subculture is the explicit and wholesale repudiation of middle class standards and the adoption of their very antithesis" (Cohen 1955, p. 129). Cohen's value theory of delinquency has been operationalized to distinguish between delinquents and nondelinquents by Landis and associates (1963; Landis and Scarpitti 1965a; Landis and Scarpitti 1965b). Although their findings were promising, little research has been conducted with their Value Orientation Scale (VOS).

Acculturation

Of particular importance in the study of social class among Mexican-Americans is the concept of acculturation (Caetano 1987; Gilbert and Alcocer 1988). Acculturation refers to the process that immigrants undergo as they become integrated into the larger society. Acculturation is a complicated process, measured directly by a number of scales and indirectly by language and socioeconomic status. Olmedo et al. (1978) include both years of education and white or blue collar employment as factors in acculturation. Several researchers who have studied acculturation among Mexican-Americans have found higher acculturation to be positively related to drug or alcohol use among both sexes (Caetano 1987; Perez et al. 1980). With

respect to social class, Holck et al. (1984) found, among a household sample of over 2,000 Mexican-American women, that higher levels of education and being employed were significantly related to alcohol consumption. It is expected that Mexican-American youth with higher acculturation scores as measured by parents' education and family income may be more likely to report drug abuse and serious delinquency.

Other Drug Use

Evidence suggests that the use of one psychoactive substance by youngsters often leads to later experimentation with other drugs. Research on adolescent drug use has consistently shown a predictable sequence of initiation: individuals who begin with tobacco or alcohol often progress later to marijuana and may eventually go on to use other drugs such as depressants, cocaine, or opiates. For this reason, tobacco (nicotine) and alcohol are frequently viewed as "gateway" drugs and marijuana as a "stepping stone," which greatly increases the likelihood that the use will progress to the problematic use of other illicit drugs (Botvin et al. 1984).

MODEL

The following research examines correlates of self-reported drug use and violence among a sample of Mexican-American youth, of whom 10.3 percent have been adjudicated delinquent. Friends' drug use, gender, family dysfunction, values, and other drug use are predicted to be correlated with both drug abuse and violence. While it is not possible to determine the temporal relationship between drug use and violent delinquency, the bivariate and multivariate relationships that exist between drug use, violent delinquency, and other variables are examined. Since family factors, such as rejection, lack of supervision, abuse, gender, and, to some extent, value formation, precede peer orientation, friends' drug use will also be examined as a dependent variable. The theoretical perspective tested here is that family dysfunction leads to value orientation and peer group formation conducive to drug use. Heavy illicit drug use, lack of parental control, physical abuse, and friends' drug use contribute to violent delinquency.

It is proposed that family dysfunction, as expressed in parental rejection, lack of supervision, and physical abuse, leads to value orientation that rejects conventional society. Children who experience intense family dysfunction often feel isolated and may find their fundamental sense of trust in others violated. Although "in" the family, these youth are not "of" the family, nor are they participating members of it. Family dysfunction may be particularly acute in families that are moving away from the traditional culture and the extended family, moving from rural to urban areas. For Mexican-American families, it is expected that upwardly mobile, more educated, and dual-income families are more likely to have children with problems resulting in drug abuse and violence.

Like other youth, Mexican-American adolescents are peer oriented. Drug-using and delinquent peer orientations are both facilitated and supported by value orientations that on the one hand are nonconformist and on the other are consistent with peer values. Value formation is thought to be independent of socioeconomic status particularly for Mexican-American youth experiencing acculturation.

Youth in nonconforming peer groups that share deviant values mutually enhance their solidarity and cohesiveness, thereby reinforcing deviance and progressive drug use. The greater the proportion of friends who use drugs, the greater the likelihood that respondents report drug use themselves. Drug use provides a behavioral bond for the group and involvement in deviance shared with others. The harder the drugs used, the greater the potential involvement with drug-related violence of all types. While an inherent relationship between drugs and violence is not suggested, delinquent violence is likely to increase with drug use. Given that tobacco and alcohol use are "gateways" to wider drug consumption, and marijuana is a "stepping stone" to more serious drug abuse, as illegal drug use increases, so will violence.

METHOD

Sample

The community from which the high school sample is drawn is located in an urban corridor undergoing rapid growth and development. The community of 35,000 has experienced 20-percent population growth over the last 10 years with both Mexican-Americans and whites moving to the area. The Mexican-American community is characterized by wide variation in length of residence, degree of acculturation, and socioeconomic status as well as neighborhood location. Many families in the area are recent residents of the community without multigenerational roots. The school district consists of 58.8 percent Mexican-Americans, 36.8 percent whites, and 4.2 percent blacks. The full sample consists of 764 high school (HS) students and 165 Texas Youth Commission (TYC) youngsters. Among the HS students, there were 400 Mexican-Americans (173 males and 227 females).

To ensure an adequate representation of violent and adjudicated delinquents in the sample, the population of youth confined to a maximum security reformatory, operated by the TYC for repeat and violent offenders, was included. The demographic makeup of the adjudicated subsample was 33.5 percent white, 28.0 percent Mexican-American, 23.2 percent black, and 15.2 percent other. Among the TYC students, there were 46 Mexican-Americans (30 males and 16 females). The TYC and HS Mexican-American respondents were combined into one sample for the purpose of this study. One limitation of the sample is that the HS respondents were from a growing small city, while most of the TYC respondents were from urban

environments. A second limitation of the sample is that adjudicated delinquents are overrepresented.

Instrument

A closed-ended questionnaire was used to obtain data from the HS and TYC youth during the spring of 1986. The questionnaire and machine-readable answer sheets were distributed by university personnel during regularly scheduled classroom periods. The general purpose of the questionnaire was explained in writing and orally in a standardized introduction to each class. All students were assured that their answers would remain anonymous and confidential. They were also told that participation was voluntary and that they could leave any item blank if they chose to do so. Only two high school students did not participate. With some minor differences, the same questionnaire used at the HS was administered during class time at the TYC facility. Due to concerns about literacy, all the questions and the possible answers were read aloud; otherwise, questionnaire administration was the same at both sites.

The questionnaire contained a 17-item delinquency scale, which ranged from using a false identification to manslaughter or murder. Reliability of this 17-item delinquency scale was .88, as measured by Cronbach's alpha. Self-reports of delinquency in the last 12 months or in the 12 months prior to confinement were sought, rather than lifetime delinquency.

The drug-use questions were modeled after those used by the Monitoring the Future Project, which yearly assesses drug use among high school seniors (Johnston et al. 1986). Due to space and time limitations, only four items on the questionnaire pertained to personal drug use: one each for tobacco use, alcohol use, marijuana use, and other illegal drug use, which included cocaine, hallucinogens, stimulants, barbiturates, and inhalants. Like the delinquency items, each question measured self-reported drug use in the last 12 months.

The family functioning variables, supervision, rejection, and physical violence in parent–adolescent relationships, were measured by four questions. Parental supervision was measured by two questions: "Do your parents know who you are with when you are away from home?" "Do your parents know where you are when you are away from home?" Parental rejection was determined by a single question: "Do your parents ever make you feel unwanted?" Physical abuse was measured by the question: "Do your parents ever punish you by slapping or hitting you?" The possible responses to these family variables were "usually," "sometimes," and "never." They were coded so that higher scores indicated less supervision, more rejection, and abuse. These parent–child items were adapted from Hirschi (1969) and closely match those recently used by Cernkovich and Giordano (1987) in their study of family relations and delinquency.

Friends' drug use was determined by questions that measured friends' marijuana use and friends' use of other illegal drugs including cocaine, LSD, amphetamines, barbiturates, and inhalants. Possible responses were none, few, some, many, or all. Items measuring friends' marijuana and other drug use were combined to create a single measure, while value orientation was determined by two separate scales: the VOS (Landis and Scarpitti 1965a) and the Watts Scale. The VOS is composed of 13 items intended to measure the degree of orientation toward middle class values, such as concern for others vs. self-interest, antiestablishment vs. proestablishment attitudes, internal vs. external locus of control, present vs. future orientation, and toughness, e.g., "Good manners are only for sissies" and "Don't let anybody your size get by with anything." The reliability for the VOS, measured by Cronbach's alpha, was .809. The Watts Scale, constructed for this study, consisted of only five items, which emphasized middle class values related to how important the participants viewed reading, writing, employment, hard work, and respect for the property of others. The alpha for this scale was .616. Higher scores on both the Watts Scale and the VOS indicated greater agreement with middle class values.

Social class was determined by three items: (1) fathers' education, (2) mothers' education, and (3) family income. Responses to these questions were coded so that higher scores were indicative of higher socioeconomic class. With respect to gender, male was coded as "1" and female as "0." With respect to the variable that will be called "incarceration," public high school students were coded as "0," and reform school students were coded as "1."

Statistics

A factor analysis of the delinquency items was conducted to confirm a violence scale. Table 1 shows the means, standard deviations, and factor scores of the delinquency variables included. Since the delinquency variables are intercorrelated, an oblique rotation (Kim and Mueller 1978) was used with an eigenvalue of 1.0 for inclusion. Variables with factor loadings of .30 or greater on two or more factors were excluded from further analysis. Three factors were produced in 15 iterations explaining 52 percent of the variance. The first factor, as shown in table 1 and labeled violent delinquency, included assault, fighting, rape, vandalism, carrying a weapon, murder or manslaughter, car theft, and breaking and entering. The second factor consisted of selling or giving away drugs and cutting school; it was not labeled. The third factor included shoplifting, running away, and armed robbery; this factor was also unlabeled. Only the first factor, which accounted for 39 percent of the total explained variance, is included in subsequent analysis. The other factors are not used, since they do not cohere in a meaningful way, and since they are only peripherally related to the key dependent variable—violent delinquency.

TABLE 1. *Factor analysis of delinquency measures*

Variable	Mean	Standard Deviation	Factor Loading
Factor 1: Violent Delinquency*			
Intentionally Hurt Others	1.74	1.23	.434
Serious Fight	1.49	1.00	.660
Group Fight	1.58	1.11	.591
Sex Against Will	1.24	.79	.498
Vandalism	1.40	.87	.682
Hidden Gun/Knife	1.70	1.24	.454
Killed Person	1.06	.28	.755
Arson	1.14	.48	.658
Car Theft	1.25	.82	.587
Break and Enter	1.40	.88	.645
Factor 2:			
Sold/Gave Drugs	1.61	1.27	.829
Cut School	2.37	1.56	.606
Factor 3:			
Shoplift	1.49	.91	-.639
Runaway	1.26	.69	-.734
Armed Robbery	1.24	.84	-.795

*Alpha=.818 for Factor 1.

Stepwise multiple regressions were used to determine the relative importance of the variables investigated in relationship to four dependent variables: (1) violent delinquency; (2) illegal drug use other than marijuana (referred to as other illegal drug use); (3) friends' drug use; and (4) incarceration. Pearson correlations were used to determine relationships among violent delinquency, other illegal drug use, alcohol use, tobacco use, marijuana use, friends' drug use, and incarceration.

RESULTS

Table 2 displays the bivariate correlations between all variables included in this study. Although correlations among some of the independent variables are moderate to high, e.g., marijuana and other illegal drug use are correlated at .678, no correlation approaches .80. Anticipating multicollinearity, all

TABLE 2. *Pearson correlations for all variables*

Variable	Incarceration	Violent Delinquency	Illicit Drug Use	Friends' Drug Use	Marijuana Use	Tobacco Use	Alcohol Use
Incarceration	1.000	—	—	—	—	—	—
Violent Delinquency	.635*	1.000	—	—	—	—	—
Illicit Drug Use	.535*	.644*	1.000	—	—	—	—
Friends' Drug Use	.465*	.563*	.634*	1.000	—	—	—
Marijuana Use	.389*	.485*	.678*	.548*	1.000	—	—
Tobacco Use	.412*	.417*	.488*	.450*	.595*	1.000	—
Alcohol Use	.185*	.386*	.498*	.424*	.641*	.526*	1.000
Lack of Supervision	.318*	.371*	.289*	.359*	.347*	.264*	.229*
Physical Abuse	.092†	.142**	.030	.013	-.060	-.032	-.087†
Parental Rejection	.344*	.245*	.175*	.236*	.152**	.138**	.081†
Watts Scale	-.120**	-.199*	-.084†	-.063	-.053	-.033	.067
VOS	-.256*	-.329*	-.282*	-.271*	-.239*	-.170*	-.047
Gender	.096†	.167*	.104**	.118**	.188*	.297*	.216*
Social Class	.136**	.094†	.077	.037	.034	.023	.051

Variable	Lack of Supervision	Physical Abuse	Parental Rejection	Watts Scale	VOS	Gender	Social Class
Incarceration	—	—	—	—	—	—	—
Violent Delinquency	—	—	—	—	—	—	—
Illicit Drug Use	—	—	—	—	—	—	—
Friends' Drug Use	—	—	—	—	—	—	—
Marijuana Use	—	—	—	—	—	—	—
Tobacco Use	—	—	—	—	—	—	—
Alcohol Use	—	—	—	—	—	—	—
Lack of Supervision	1.000	—	—	—	—	—	—
Physical Abuse	.147**	1.000	—	—	—	—	—
Parental Rejection	.163*	.195*	1.000	—	—	—	—
Watts Scale	-.130**	-.037	.037	1.000	—	—	—
VOS	-.286*	-.036	-.068	.301*	1.000	—	—
Gender	.215*	-.055	-.131**	-.093†	-.121**	1.000	—
Social Class	.015	.047	-.008	.002	.083	.040	1.000

*p≤.001.
**p≤.01.
†p≤.05.

dependent variables were regressed against one another to determine if the relationships between the variables approached unity. The highest r^2, .79, was sufficiently high to suggest caution but not close enough to unity, given the sample size, to require other solutions such as dropping or collapsing variables (Lewis-Beck 1983; Berry and Feldman 1985).

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Further examination of the r^2s of the independent variables regressed against one another showed that all drug use measures ranging from friends' drug use and tobacco to other illegal drug use, marijuana, and alcohol were in the .65 to .79 range. These variables, while interrelated, are believed to be conceptually distinct. Keeping the drug variables separate and analyzing the explained variance, both including and excluding selected drugs from a regression equation, provides greater explanatory potential than reducing all interrelated explanatory variables to a collapsed category or deleting them from consideration. Dropping all variables with r^2s of greater than .50 would eliminate most drug measures, again not a conceptually acceptable alternative. While other studies (Osgood et al. 1988) have shown that drug use is an element in general deviance, different types of drug use may have different relationships with violent delinquency.

Following the model specified above, which predicts that violent delinquency is a function of illegal drug use, friends' drug use, values, and family factors, table 3 displays the outcomes of the analysis. Illegal drug use other than marijuana contributes the greatest amount to the variance, accounting for 39.3 percent of the total of 51.6 percent. Friends' drug use and the Watts Scale also contributed significantly as did lack of supervision, physical abuse, tobacco use, social class, the VOS, and parental rejection. The most important family variables contributing to the explanation of violent behavior in the combined sample were lack of supervision and physical abuse. It is interesting to note that higher socioeconomic Mexican-American youth report more violent behavior, while the Watts Scale and the VOS show values that are counter to middle class values. This finding suggests that acculturation is a factor in contributing to both drug use and violent behavior as defined in this study. Mexican-American youth whose families are better educated and more prosperous have not internalized values that are consistent with that success.

As discussed earlier, to include a full range of delinquent behavior in the study, the sample included both high school and incarcerated youth. Of the 446 Mexican-American youth in the sample, 46 (10.3 percent) were incarcerated. The inclusion of such a large portion of incarcerated youth in the sample, in comparison to what exists in the population, skews the sample and the findings. To show the effects of incarceration on the sample, incarceration was introduced into the regression equation as a predictor variable. Incarceration was transformed into a dummy variable, with incarceration coded as "1" and nonincarceration coded as "0." Controlling for incarceration (see table 4) reduces the relative effect of illegal drug use on violent delinquency in relation to all other predictors. Incarceration has the largest beta weight (.384) with other illegal drug use and friends' drug use making substantial contributions. Other illegal drug use becomes the second predictor variable explaining 11.3 percent of the variance. Except for physical abuse, family factors are no longer significant variables, while alcohol enters the equation. The finding that incarcerated youthful offenders are more

TABLE 3. *Stepwise regression on violent delinquency*

Independent Variables	Beta	% Variance
Illegal Drug Use	.381†	39.3
Friends' Drug Use	.188†	4.3
Watts Scale	−.128†	2.6
Lack of Supervision	.090*	1.6
Physical Abuse	.096†	1.0
Tobacco	.111**	1.0
Social Class	.091**	0.6
VOS	−.093*	0.7
Parental Rejection	.074*	0.5
Marijuana	−.002	—
Alcohol	.062	—
Gender	.045	—

*p<.05.
**p<.01.
†p<.001.

NOTE: r=.718; r^2=.516. Other illegal drug use included use of cocaine, acid, speed, downers, or inhalants. It did not include marijuana or heroin.

violent than nonincarcerated youth is consistent with Hindelang et al. (1979), which found adjudicated offenders to have more serious offenses than nonadjudicated, self-report respondents.

As an aside to the violent delinquency–drug use issue is the question of why these youth are incarcerated. In this sample of Mexican-American youth, incarceration is principally a function of violent delinquency. Entering the same predictor variables plus violence into a regression equation with incarceration as the dependent variable, a multiple r of .712 is produced, with violence accounting for 37.9 percent of the variance, while other illegal drug use contributes 4.3 percent and alcohol 3.2 percent. Tobacco contributes 3.4 percent and rejection by parents 1.8 percent for an explained variance of 50.6 percent.

Given that the most important predictors of violent delinquency, as displayed in table 3, are other illegal drug use and friends' drug use, separate regressions were performed on these variables using only the remaining predictor variables. For both other illegal drug use and friends' drug use as dependent variables, two sets of analyses were conducted: one including alcohol and tobacco and one excluding alcohol and tobacco. The reason for the dual analysis is to control for multicollinearity by eliminating the

TABLE 4. *Stepwise multiple regression on violent delinquency controlling for incarceration*

Independent Variables	Beta	% Variance
Incarceration	.384†	40.1
Other Illegal Drugs	.204†	11.3
Friends' Drug Use	.168†	2.6
Watts Scale	−.120**	1.9
Alcohol	.155†	1.2
Physical Abuse	.114**	1.2
VOS	−.091*	0.8
Marijuana	−.028	—
Tobacco	−.018	—
Parental Rejection	.016	—
Lack of Supervision	.047	—
Gender	.043	—
Social Class	.062	—

*p<.05.
**p<.001.
†p<.0001.

NOTE: r=.769; r^2=.591. Other illegal drug use included use of cocaine, acid, speed, downers, or inhalants. It did not include marijuana or heroin.

strongly correlated other drug variables, marijuana, alcohol, and tobacco. Since these correlations are not high enough to dictate elimination, they are included to illustrate their effect.

For other illegal drug use, an important predictor of violent delinquency, 56.3 percent of the variance can be explained with marijuana use, friends' drug use, tobacco, and the VOS. As shown in table 5, marijuana accounted for 45.8 percent of the variance on other illegal drug use, followed by friends' drug use, tobacco, and the VOS. When alcohol, tobacco, and marijuana are excluded from the equation, friends' drug use and the VOS account for almost 41 percent of the variance.

Table 6 displays regression findings on friends' drug use. In the first analysis, including marijuana, alcohol, and tobacco, 35.4 percent of the variance is accounted for. Marijuana explains 28.2 percent of the variance, while lack of parental supervision contributes 2.9 percent. Tobacco use adds 1.8 percent, and parental rejection accounts for 1.7 percent, with VOS 0.8 percent. Respondents who report that most of their friends use drugs have a constellation of identifying characteristics, which include marijuana

TABLE 5. *Stepwise multiple regression on other illegal drug use*

Independent Variables	Beta	% Variance
Including Alcohol, Tobacco, and Marijuana[a]		
Marijuana	.420†	45.8
Friends' Drug Use	.346†	10.2
Tobacco	.087*	0.6
VOS	−.079*	0.5
Social Class	.070*	0.2
Watts Scale	−.014	—
Parental Rejection	.016	—
Lack of Supervision	−.046	—
Physical Abuse	.036	—
Gender	−.054	—
Alcohol	.067	—
Excluding Alcohol, Tobacco, and Marijuana[b]		
Friends' Drug Use	.598†	39.6
VOS	−.122**	1.3
Watts Scale	−.010	—
Parental Rejection	.024	—
Lack of Supervision	.033	—
Physical Abuse	.011	—
Gender	.024	—
Social Class	.071	—

*p<.05.
**p<.001.
†p<.0001.
[a]r=.750, r^2=.563.
[b]r=.640, r^2=.409.

and tobacco use, family rejection, lack of supervision, and a value orientation system counter to middle class values.

Because marijuana use underlies both other illegal drug use and friends' drug use, a final set of analyses examined the relationships of the predictor variables on marijuana use. As with other illegal drug use and friends' drug use, marijuana use is examined both including and excluding alcohol and tobacco. As shown in table 7, alcohol and tobacco account for over 50 percent of the variance in reported marijuana use, followed by friends' drug use, the VOS, and lack of parental supervision. When alcohol and

TABLE 6. *Stepwise multiple regression on friends' drug use*

Independent Variables	Beta	% Variance
Including Alcohol, Tobacco, and Marijuana[a]		
Marijuana	.353†	28.2
Lack of Supervision	.136**	2.9
Tobacco	.157**	1.8
Parental Rejection	.128**	1.7
VOS	-.095*	0.8
Watts Scale	.002	—
Physical Abuse	.003	—
Gender	-.049	—
Social Class	.027	—
Alcohol	.091	—
Excluding Alcohol, Tobacco, and Marijuana[b]		
Lack of Supervision	.276†	12.0
VOS	-.171**	2.8
Parental Rejection	.159**	2.5
Watts Scale	.014	—
Physical Abuse	-.046	—
Gender	.037	—
Social Class	.049	—

*p<.05.
**p<.001.
†p<.0001.
[a] $r=.595$, $r^2=.354$.
[b] $r=.416$, $r^2=.173$.

tobacco are dropped from the equation, the total explained variance is reduced to 32.4 percent, with friends' drug use accounting for the greatest variance, followed by lack of parental supervision, and being male. Marijuana use is closely intertwined with other more prevalent drugs, with a drug-using friendship network, and some lack of parental supervision.

DISCUSSION

The great majority of the variance in violent delinquency was accounted for by illegal drug use other than marijuana. Friends' drug use was the next most important contributor, followed by the Watts Scale. Tobacco use

TABLE 7. *Stepwise multiple regression on marijuana use*

Independent Variables	Beta	% Variance
Including Alcohol and Tobacco[a]		
Alcohol	.391†	40.3
Tobacco	.268†	10.0
Friends' Drug Use	.205†	4.8
VOS	−.100**	1.3
Lack of Supervision	.080*	0.5
Watts Scale	−.016	—
Parental Rejection	.004	—
Physical Abuse	−.025	—
Gender	−.034	—
Social Class	.003	—
Excluding Alcohol and Tobacco[b]		
Friends' Drug Use	.469†	28.5
Lack of Supervision	.161**	2.9
Gender	.104*	1.0
Watts Scale	.004	—
VOS	−.075	—
Parental Rejection	.006	—
Physical Abuse	−.079	—
Social Class	.013	—

*p<.05.
**p<.001.
†p<.0001.
[a]r=.754, r^2=.569.
[b]r=.569, r^2=.324.

made a significant contribution to explaining violent delinquency, but was important after the Watts Scale, lack of supervision, and social class. Drug use is a factor in violent delinquency as self-reported by this sample of Mexican-American youth.

Although the data do not identify whether the motives for violence are owing to psychopharmacological, economic, or systemic motives for such violence, the relationship between violent behavior and drug use is real and contains significant policy implications. However, the unique nature of this sample suggests caution. When incarceration is entered into the multiple regression equation, it accounted for the majority of variance in violent delinquency. This sample, as it includes youth who are incarcerated and

those who are not, presents a wide range of responses, and, as expected, incarcerated youth are more violent. Given the response range of this sample, the common factors contributing to both violent delinquency and illegal drug use offer policy implications and suggestions for predictors of specific deviance, such as violence, from general deviance.

The common factors found to contribute either directly or indirectly to both violent delinquency and other illegal drug use were friends' drug use, tobacco use, the VOS, and social class. Friends' drug use is the variable with the second greatest effect on violent delinquency and the largest effect on other illegal drug use, after marijuana use. Youngsters who use illegal drugs form groups, which may or may not be centered on drugs, but which may facilitate violent delinquency. Somewhat different from the national sample reported by Osgood et al. (1988), Mexican-American youth are distinguished by the fact that violent behavior is correlated, not with marijuana use, but with the culturally available and approved tobacco. However, marijuana use is the predictor of other illegal drug use, which is related to violent delinquency. Lack of parental supervision and parental rejection, while not associated with other illegal drug use, are connected with friends' drug use, while lack of parental supervision is also correlated with violent delinquency. Family factors are indirectly linked to drug use and directly linked to violent delinquency. However, marijuana use is the single best predictor of other illegal drug use, while alcohol and tobacco are predictors of marijuana use.

Apart from possible psychobiological effects of tobacco use on young people's orientation to violent delinquency, tobacco products are the most readily available form of psychopharmacologically active drugs in our society. Youngsters who use tobacco act out tobacco-associated identities available in the media and popular culture. They express a range of symbols about themselves that suggest being independent, adult, adventuresome, and tough. These values are also associated with drug use and violent delinquency. Smoking is also a marginally deviant, socially visible act for teenagers. By smoking, young people announce to the public and significant peers that they, too, are a part of a unique club of outsiders. In a sense, smoking becomes a clan badge or club insignia that can be recognized by others, be reinforced with others, and be a shared focus of attention and action.

The findings reinforce the view that tobacco use is a gateway drug both to the group of friends who use illegal drugs and to illegal drugs themselves. Marijuana plays a pivotal role in a transition from tobacco and alcohol use to other illegal drugs. Parental rejection and lack of parental supervision, along with marijuana and tobacco use, are important predictors of Mexican-American youth's becoming involved with friends who use drugs. Mexican-American children of more acculturated parents (as measured by socioeconomic status) were more likely to be involved in violent delinquency. The

pattern of parental neglect or rejection and lack of supervision culminates in physical abuse for many of the youth who engage in violent delinquency.

Value orientation, as measured by the Watts Scale or the VOS, was related to violent delinquency, illicit drug use, and friends' drug use. As elements of socialization in the family and elsewhere in society, values frame the general line of action in which people engage. The most violent of the Mexican-American youth reported in this study did not score highly on either the VOS or the Watts Scale, both designed to measure values consistent with a conforming and productive lifestyle. These same youth were not, however, from lower class families. Instead, the most violent youth were from families with higher incomes and parental education scores, but their value orientations were consistent with violent delinquency. For Mexican-American youth, acculturation should be considered when assessing the effect of class position and values on delinquency. The greatest strain and resulting delinquency may well be with Mexican-American youth from upwardly mobile families.

These youth, feeling rejected by parents and, perhaps, their conventional peers, drift into association with one another, forming groups that will accept their impulsive and antisocial behavior. The key to membership in such groups is frequent drug use (Oetting and Beauvais 1987), by which members feel as if they have joined some "fantastic lodge" (Hughes 1963). The group decides what drugs will be used, when they will be used, and how they will be obtained. Drugs bind the members of the group together and provide a special bond. Horowitz (1983) found that Hispanic youth form gangs as a vehicle to claim honor, and that for the most part, drug use is not a factor. Carpenter et al. (1988), whose sample is not Hispanic, found that high drug use is related to violence, including violence to protect honor.

The young Mexican-Americans in our sample most prone to commit violent acts tend to come from a more middle class family but reject traditional middle class values. Feeling rejected by parents and without adequate parental supervision, involved in alcohol and tobacco use with friends, they join a peer group that supports drug use. Progressing from marijuana to other illegal drugs, these youth increasingly engage in delinquent behavior including violent delinquency.

Based on the findings, violent delinquency among Mexican-American youth develops in the following way. First, the children develop low impulse control and low tolerance for frustration in the context of the family, in which parental rejection, lack of supervision, physical abuse, and other forms of family stress are experienced. Second, the youth adopts values that are in conflict with those that are consistent with productive behavior in "middle class" society. Third, young people experiment with tobacco use, identifying themselves as marginal. In association with peers, they continue

to experiment with other gateway and stepping stone drugs, particularly marijuana. In the peer group, drug use is supported, while other deviant behaviors including violence are tolerated. Fourth, family controls are either too little, too late, or none at all. Violent youth tend to be inadequately constrained by family attitudes and supervision. Fifth, physical abuse and family violence make a minor but direct contribution to violent delinquency. Sixth, drug use affects violence pharmacologically, systemically, or economically (Goldstein 1985). By impairing judgment, drug use can contribute to violence, just as the user involved in trafficking is at risk of violence.

Having both parents with at least high school degrees increases the probability that both parents will be employed. This would increase family income, but might undermine the traditional Mexican-American family structure and create added stress within the family. Higher social class in this population, as measured by educational achievement and economic success, reflects greater acculturation and maybe loss of cultural identity (Olmedo et al. 1978). As reported by Caetano (1987), more acculturated Mexican-American families tend to have a higher rate of alcohol consumption. Increased alcohol consumption by parents may increase family stress and friction contributing to eventual parent–child relationship problems. The extreme stress at home and poor relationships with parents might propel children towards association with deviant peers, drug use, and delinquency. Additional research will be needed to determine if this phenomenon occurs in other Mexican-American populations, and what factors are related to it.

Limitations

There are some limitations concerning the methodology and substance of this study that need explication. First, the sample in this study was constructed in response to critiques by Hindelang et al. (1979) that self-report investigations underrepresent serious delinquents and, therefore, do not adequately reflect the full range of delinquent and criminal behavior. Simply surveying high school students will not capture that range. Inclusion of an adjudicated delinquent sample in the survey permits a more complete representation of drug use and delinquent youth with sample construction weighted toward youth who are more likely to be violent in order to capture a broad range of both behaviors.

Although there are reasons to focus separately on adjudicated and nonadjudicated populations, the variance in violent behavior found within each of these groups examined separately will be restricted. Further, it is unlikely that many truly violent individuals will be found on any one day in the average public high school. Most violent delinquents who have not dropped out will be expelled, suspended, absent, or in jail or reform school. This is especially true of Mexican-Americans in Texas, where the dropout rate for this ethnic group is 45 percent, with the majority dropping out in the ninth grade.

Second, while this study is limited by its cross-sectional design, the anonymity and confidentiality given to respondents assures that no legal or other negative consequences will follow. No observations or conclusions can be drawn regarding the temporal sequencing or causality of drug use and violence due to its cross-sectional design. The anonymity given to respondents makes it impossible to contact them years later. The same anonymity also assures respondents that the information given may not be traced to them individually nor will there be any accountability for behavior. The provision of anonymity enhanced the validity of the study's findings.

Implications

Based on this research and others (Carpenter et al. 1988; Dembo et al. 1985; Horowitz 1983; Newcomb and Bentler 1988), violent delinquency among Mexican-American youngsters begins with family and proceeds through peer involvement, value orientation, and the use of licit and illicit drugs. Perceived parental rejection has been found in this and other studies (Oetting and Beauvais 1987) to be associated with peer group selection and involvement with illegal drugs. Parental rejection may have its origins in a complex series of events that may include low impulse control and low frustration or tolerance within the child to such an extent that parents attempt to remove themselves from the child. Mexican-American parents, traditionally suffering from low socioeconomic status, are struggling in Texas and throughout the Southwest to increase income and improve social status. In Mexican-American families, like all others, this requires both husband and wife to work, which is inconsistent with traditional Mexican-American culture. The stresses of the family being different from others in the community, from the perceived unavailability of the mother, and the lack of parental care, may contribute to Mexican-American adolescents' feeling rejected and angry, and needing to seek support from peer groups. Upwardly mobile parents, perhaps alienated from the traditional family support system that may be available for other Mexican-American youth, may be too preoccupied with problems of their own to adequately respond to their child's need for attention. As problems escalate in the family, parents may view misbehavior as threats to authority and resort to violence. Thus, consistent with the literature, this study found a direct relationship between parental physical abuse and violent delinquency.

The reduction of illegal drug use among Mexican-American youth will almost certainly reduce violent delinquency. To reduce illegal drug use in this group, it will be necessary to initiate programs to train and support parents of preschool and high-risk school-age children, particularly the children of upwardly mobile, increasingly acculturated families who are experiencing substantial stress. Elementary schools will need to examine programs to assist children in peer group integration, so that Mexican-American youth will find acceptance in other than drug-using groups.

The findings that alcohol, marijuana, and tobacco use contribute to both illegal drug use and violent delinquency is instructive. Not only does this society need to concern itself with the effects of illegal drugs and their relationship to violence, but it must focus additional concern on tobacco and alcohol. These drugs, for some Mexican-American youth, are gateways not only to illegal drug use but also to violent behavior.

Today's drug problem has reopened the discussion of legalization of drugs. Alcohol and tobacco are frequently cited as examples of the positive effects of legalization, such as producing a legitimate trade, reducing crime, and yielding revenue. One negative consequence of the legalization of alcohol and tobacco is the high availability of both drugs for youth. Even where law prohibits sale of alcohol and tobacco to minors, the simple acceptance and use of the drugs throughout society makes them attractive to youth with problems and makes them more available in the home and community. Imagine the effects on youth if marijuana, cocaine, or heroin were more easily accessible than they are now. While this Nation currently is experiencing a drug abuse epidemic among young people, the future for American youth would be catastrophic if even more drugs with destructive effects were readily available.

CONCLUSION

Although this cross-sectional study has discussed the relation between illegal drug use and violence among adolescent Mexican-Americans, little is known of the temporal order of the relation. To confirm or reject our interpretation that drug use and participation in drug-using peer groups contributes greatly to violent delinquency, a longitudinal study of Mexican-American children should be undertaken. This study should examine family and child interaction; the effects of acculturation, especially socioeconomic success; and the process of introduction to and participation in peer groups. What are the effects of acculturation on both drug use and violent delinquency? At what stage in peer group orientation do Mexican-American youth become involved with alcohol and tobacco? Other questions, such as the relations between leaving school, drug abuse, and delinquency could be addressed through such a longitudinal cohort study.

Value orientation also needs additional study. Although social class was very weakly associated with violent delinquency, low value orientation scores are consistent factors in both drug use and delinquency. The VOS was developed in Ohio in 1963 to differentiate between delinquents and nondelinquents. The Watts Scale, similar to the VOS, is more skill oriented. Another scale, for assessment of Mexican-American youth, needs to be developed to insure proper evaluation of the relations between value orientation, social class, delinquency, and drug use.

REFERENCES

Bachman, J.G.; O'Malley, P.M.; and Johnston, L.D. *Youth in Transition.* 6. Ann Arbor, MI: Institute for Social Research, 1978.

Berry, W.D., and Feldman, S. Multiple regression in practice. Beverly Hills, CA: Sage University Paper series on Quantitative Applications in the Social Sciences, 1985.

Botvin, J.B.; Baker, E.; Renick, N.; Filazzola, A.D.; and Botvin, N. A cognitive–behavioral approach to substance abuse prevention. *Addict Behav* 9:137-147, 1984.

Bowlby, J.H. *Attachment and Loss.* Vol. 3. New York: Basic Books, 1973.

Caetano, R. Drinking and Hispanic-American family life: The view outside the clinic walls. *Alcohol Health Res World:*22-34, 1987.

Carpenter, C.; Glassner, B.; Johnson, B.D.; and Loughlin, J. *Kids, Drugs, and Crime.* Lexington, MA: D.C. Heath, 1988.

Cernkovich, S.A., and Giordano, P. Family relationships and delinquency. *Criminology* 25(2):295-321, 1987.

Cohen, A.K. *Delinquent Boys: The Culture of the Gang.* New York: The Free Press, 1955.

Dembo, R.; Grandon, G.; LaVoie, L.; Schmeidler, J.; and Burgos, W. Parents and drugs revisited: Some further evidence in support of social learning theory. *Criminology* 24(1):85-104, 1985.

Elliott, D.S.; Huizinga, D.; and Ageton, S.S. *Explaining Delinquency and Drug Use.* Beverly Hills, CA: Sage Publications, 1985.

Gilbert, J.M., and Alcocer, A.M. Alcohol use and Hispanic youth: An overview. *J Drug Issues* 18(1):33-48, 1988.

Gilbert, J.M., and Cervantes, R. Patterns and practices of alcohol use among Mexican-Americans: A comprehensive review. *Mexican-Americans and Alcohol.* Monograph II, Spanish Speaking Mental Health Research Center. University of California at Los Angeles, Los Angeles, CA, 1987.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1985.

Guinn, R. Characteristics of drug use among Mexican-American students. *J Drug Educ* 5(3):235-241, 1975.

Hindelang, M.; Hirschi, T.; and Weis, J.G. Correlates of delinquency. *Am Soc Rev* 44(6):995-1014, 1979.

Hirschi, T. *Causes of Delinquency.* Berkeley, CA: University of California Press, 1969.

Holck, S.E.; Warren, C.W.; Smith, J.C.; and Rochat, R.W. Alcohol consumption among Mexican American and anglo women: Results of a survey along the U.S.-Mexico border. *J Stud Alcohol* 45(2):149-154, 1984.

Horowitz, R. *Honor and the American Dream: Culture and Identity in a Chicano Community.* New Brunswick, NJ: Rutgers University Press, 1983.

Hughes, H.M. *The Fantastic Lodge: The Autobiography of a Drug Addict.* New York: Fawcett, 1963.

Jessor, R., and Jessor, S.L. *Problem Behavior and Psychosocial Development: A Longitudinal Study of Youth.* New York: Academic Press, 1977.

Johnson, K.A. The application of social control theory in understanding adolescent alcohol use. *Sociol Spectrum* 4:275-294, 1988.

Johnston, L.D., and O'Malley, P.M. Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *J Drug Issues* 16(1):29-66, 1986.

Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G. *Drug Use Among American High School Students, College Students, and Other Young Adults: National Trends Through 1985.* Rockville, MD: National Institute on Drug Abuse, 1986.

Kandel, D.B. Adolescent marijuana use: Role of parents and peers. *Science* 181:1067-1070, 1973.

Kandel, D.B. Drug and drinking behavior among youth. *Annu Rev Soc* 6:235-285, 1980.

Kandel, D.B.; Simcha-Fagan, O.; and Davies, M. Risk factors for delinquency and illicit drug use from adolescence to young adulthood. *J Drug Issues* 16(1):67-90, winter 1986.

Kim, J.O., and Mueller, C.W. *Factor Analysis: Statistical Methods and Practical Issues.* California: Sage Publications, 1978.

Landis, J.R.; Dinite, S.; and Reckless, W. Implementing two theories of delinquency: Value orientation and awareness of limited opportunity. *Sociol Soc Res* 47:408-416, 1963.

Landis, J.R., and Scarpitti, F. Perceptions regarding value orientation and legitimate opportunity: Delinquents and non-delinquents. *Soc Forces* 44:83-91, 1965a.

Landis, J.R., and Scarpitti, F. Delinquent and non-delinquent value orientation and opportunity awareness. *Criminologica* 3:61-69, 1965b.

Lewis-Beck, M.S. *Applied Regression: An Introduction.* Beverly Hills, CA: Sage University Paper series on Quantitative Applications in the Social Sciences, 1983.

McCord, W., and McCord, J. *The Psychopath: An Essay on the Criminal Mind.* New York: Van Nostrand Reinhold, 1964.

Newcomb, M.D., and Bentler, P.M. *Consequences of Adolescent Drug Use: Impact on the Lives of Young Adults.* Beverly Hills, CA: Sage Publications, 1988.

Newcomb, M.D.; Maddahian, E.; Skager, R.; and Bentler, P.M. Substance abuse and psychosocial risk factors among teenagers: Associations with sex, age, ethnicity, and type of school. *Am J Drug Alcohol Abuse* 13(4):413-433, 1987.

Oetting, E.R., and Beauvais, F. Common elements in youth drug abuse: Peer clusters and other psychosocial factors. *J Drug Issues* 17(2):133-151, 1987.

Olmedo, E.L.; Martinez, J.L.; and Martinez, S.R. Measure of acculturation for chicano adolescents. *Psychol Rep* 42:159-170, 1978.

Osgood, D.W.; Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G. The generality of deviance in late adolescence and early adulthood. *Am Sociol Rev* 53:81-93, 1988.

Perez, R.; Padilla, A.M.; Ramirez, A.; and Rodriguez, M. Correlates and changes over time in drug and alcohol use within a barrio population. *Am J Community Psychol* 8(6):621-636, 1980.

Simonds, J.F., and Kashani, J. Specific drug use and violence in delinquent boys. *Am J Drug Alcohol Abuse* 7(314):305-322, 1980.

Watters, J.K.; Reinarman, C.; and Fagan, J. Causality, context, and contingency: Relationships between drug abuse and delinquency. *Contemp Drug Probl* 12(3):351-373, 1985.

Wilson, J.Q., and Hermstein, R.J. *Crime and Human Nature.* New York: Simon and Schuster, 1985.

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Gangs, Drugs, and Violence

Joan Moore

INTRODUCTION

Few phenomena studied by social scientists are as easily stereotyped as gang violence and drugs, particularly when they are taken in conjunction. If we are to explain variations in gang violence as it is associated with drugs, we must shake loose from these stereotypes. That is the purpose of this chapter—to think about variations in gang violence, especially as these variations relate to drug use and dealing. These considerations will bring up questions about major economic changes and their effects in poor communities.

The first major stereotype has to do with the assumptions made about gangs—i.e., with how "gang" is conceptualized and the fact that few people acknowledge any variations in gang structure and behavior. The second major stereotype is the tendency to focus on criminal behavior to the exclusion of group and community dynamics (Horowitz 1983) and to blame "the gang" for criminal acts of individual gang members.

There are several reasons for such stereotyping. The body of empirical research on gangs and drugs is very small, and it is indeed difficult to do valid research on these topics. This would not present so much of a problem if gangs were part of everybody's ordinary experience. But to most researchers they are esoteric, hence the absence of a broad empirical base prevents refutation of long-held stereotypes. A researcher must derive most of his or her ideas about gangs either from theoretical sources, which are thin at best, or from some other source, usually one that is rooted in a current public issue, widely discussed on television and in the newspapers.

This poses problems, because the sporadic public concern about gangs and drugs is usually so intense and moralistic that police and media actually define the phenomena, quite apart from reality. Both police and media have powerful motives of self-interest. Police tend to limit their concern to law enforcement issues and the need for more police power; the media sensationalize their coverage to attract audiences. What is known about

gangs and crack, for example, comes almost entirely from the media and police, and, in most instances, it is sensationalized. Together, the police and media help create what one author (Cohen 1980) calls "moral panics." Moral panics usually center on fears and outrage about the behavior of the young—and, in our country, especially about the behavior of poor and racially distinctive young men. And most gang members in today's society tend to be poor and racially distinctive (Zatz 1987).

There were young male groups called "gangs" throughout American history, and they have always generated considerable public concern about real or imagined violence (Johnson 1979). When historians try to reconstruct what actually happened with those early city gangs, they usually find that the facts are few and poorly documented. The truth is, little was ever known about those groups, and most of what historians tell us comes from the newspapers of the day. The same circumstances exist today. What we know is distorted by the lens of widespread moral panic. This distortion is so great that one venerable researcher summed it up by saying, "It is possible that we know less about the current problem than we knew about gangs and gang violence in the 1960s" (Spergel 1984, p. 199).

GANG VIOLENCE AS VARIABLE: ASSUMPTIONS AND TAXONOMIES

Popular associations for the term "gang" range from the "West Side Story" image of a group of kids whose members are aggressive and rebellious—but appealing—to the "gangster" image of a highly disciplined criminal organization with elaborate networks of "soldiers" under strict control from the top. Both images appear almost interchangeably in the media. Recently, a confusing blend of the two has been purveyed—the gang as an organized drug enterprise staffed by unpredictably aggressive and rebellious young people. Neither image recognizes any variations in gangs: the implication is that if you have a gang in your home town it is or soon will be like the stereotype.

Of course, formal law enforcement definitions of a gang concentrate on criminality, like this one from Los Angeles County, which also abolishes the distinction between individual and collective criminal behavior:

> A gang is a group of people who form an allegiance for a common purpose and engage in acts injurious to public health and public morals, who pervert or obstruct justice or the due administration of laws, or engage in (or have engaged in) criminal activity, either individually or collectively, and who create an atmosphere of fear and intimidation within the community. (McBride, personal communication, 1989)

This definition was provided courtesy of Wesley McBride of the Los Angeles Sheriffs. The definition was arrived at in 1989 after substantial inhouse discussion. The deliberate phrasing "either individually or collectively" relates to an effort to hold the gang legally responsible for criminal acts of individual members.

Social scientists who use police records must live with the police definition of gang and sometimes erroneous police identification of individuals as gang members, and, in some jurisdictions, like Los Angeles, they must also deal with the fact that police records confound individual and gang criminal activity.

Until 1989, Los Angeles Police and Sheriffs Departments both counted as gang homicides all homicides in which somebody they identified as a gang member was involved—either as perpetrator or as victim. Other jurisdictions, such as Chicago, have traditionally counted as gang homicides only those homicides in which there is a documented gang motivation (Moore 1988a). Klein and Maxson (1985) used the broad Los Angeles definition of gang homicide in their efforts to distinguish gang from nongang homicides, and this may pose some problems for their analysis.

Most social scientists who study gang violence have made some effort to develop the characteristics of the gang beyond simple stereotypes. The most ambitious of these date back to the 1960s, when the theoretical perspectives on gangs were reexamined for the first time since Thrasher's seminal work (1927) on the hundreds of Chicago ethnic youth gangs in the 1920s.

Some theorists focused on hypothetical and quintessential features of the gang, with no interest in variations. For example, Yablonsky (1970) argued that youth gangs are casual and rather fragile groupings. He generalized that the violent gang is a "near group," with little cohesion, shifting membership, and pathological leadership. Gang violence was seen as a manifestation of collective behavior, with little to do either with drugs or with any community characteristic. The most notable subcultural theorist of the same era, Walter B. Miller, argued that the gang and its violence simply reflected "the focal concerns of lower class culture" (Miller 1958, p. 18) thus allowing for little variation either in violence or in other behaviors.

The most important typology was that of Cloward and Ohlin (1960), and it *did* allow for variation and, quite explicitly, for drugs and for violence. Their basic concern with community variation was an important breakthrough. They distinguished three types of gangs—criminal, violent, and retreatist—each in a special kind of lower class community. All three types of gang arise from disparities between aspirations and opportunities in poor communities. Therefore, the local opportunity structure comes to be of

prime importance in determining which of these three subcultures will emerge.

However, the details of their taxonomy are simply not convincing in most modern circumstances. "Criminal" gangs were to be found in stable slums with an organized criminal enterprise: youth gangs served as recruiting grounds for those adult criminal organizations. The portrait was drawn almost entirely from images of Al Capone's Chicago, not even utilizing Thrasher's classic study of more than 1,000 youth gangs of the same era. The second type, the "violent" gangs, were to be found in slum areas that were unorganized, unstable, and transient. Cloward and Ohlin took as examples the massive housing projects of large Eastern cities (1960). Such "disorganized" communities, they said, did not offer the structured criminal opportunities of the older criminal slums. This may have been a plausible operational definition at the time, even though obviously very limited because only a few cities had such projects. Ironically, some of today's housing projects appear to be the homes of gangs that are both violent and criminal (Perkins 1987). The third type, the "retreatist" gang, had a drug-using, kicks-oriented subculture and emerged among those individuals or gangs who "failed to find a place for themselves in criminal or conflict subcultures" (Cloward and Ohlin 1960, p. 183). The empirical grounding for this category was also very slight.

The gangs we have studied in East Los Angeles cut across Cloward and Ohlin's classifications: they fight (and are thus violent); most members use drugs (but they are certainly not "retreatist"); and a substantial fraction continue to use drugs into adulthood, supporting themselves through various illegal as well as legal stratagems (but they are certainly not effective criminal organizations). Clearly, the communities in which they live do not conform to any of the stereotypes purveyed in Cloward and Ohlin: they are not unstable, disorganized communities, nor are they communities with strong criminal infrastructures.

Cloward and Ohlin were among the first to argue that variations in community characteristics affect variations in gang behavior. It remains an extremely important argument, and one that tends to get lost in contemporary research. Some social scientists are still working with taxonomies of the gang that ignore community characteristics (e.g., Miller (1982), who emphasized gang motivation). Some social scientists still use Cloward and Ohlin's typology quite uncritically (Kornblum 1987), and others adapt pieces of it.

Recently, Curry and Spergel (1988) applied the typology to an understanding of variations in gang homicides in Chicago. Lacking an ethnographic basis to characterize local neighborhoods, the authors used ethnicity instead. With no ethnographic justification, their measure of "social disorganization was simply and grossly the concentration of Hispanics in a community"

(Curry and Spergel 1988, p. 387). They were concerned with "the classic social disorganization model of areas inhabited by residents who are marginally integrated into the city's organizational and political life" (Curry and Spergel 1988, p. 386). Their analysis overlooks the possibility that such communities may be highly integrated in ethnic terms. In any event, this ungrounded imputation of "disorganization" to Hispanic communities in Chicago is a far cry from the "disorganization" originally discussed by Cloward and Ohlin. Hispanic communities in Chicago had very high rates of gang homicide, but Curry and Spergel's argument that this is because they were "disorganized" is simply not convincing.

If we are really interested in clarifying the connections between gangs, drugs, and violence, it is time to transcend this typology and begin to look at new variables—both with regard to the community and with regard to gang behavior. Before addressing variations, three topics will be discussed: our findings on intragang variations in violence in our study in East Los Angeles, other correlates of variations in violence, and the confusion between individual and gang-related violence.

FINDINGS FROM THE EAST LOS ANGELES STUDY: CHANGE AND VARIATION[1]

The Chicano gangs studied in East Los Angeles generally started out in the 1930s and 1940s as friendship groups of adolescents who shared common interests. There was a more or less clearly defined territory in which most of the members lived. The members were committed to defending one another, the territory, and the gang name in the status-setting fights that occurred in school and on the streets. Their families tended to live conventionally. Although some families may have been troubled, this was by no means true for all of them.

As the members of the original clique aged, the clique began to splinter. Some of the members married and settled down, while others remained involved in a street lifestyle, often mired in drug use and finding only marginal—if any—employment between periodic spells in prison.

In a very few years, another clique of the gang came into being. These were youth from the neighborhood who were too young to join the "originals," but who valued the gang name and wanted to extend its reputation. The gangs developed an age-graded system. In these gangs, each clique was fairly self-contained, with not much association between older and younger cliques (although this may be changing). In the study discussed here, 25 percent probability samples of 8 male and affiliated female cliques were interviewed in two long-standing gangs, for a total of 157 respondents. Half of the cliques had been active in the 1940s to 1950s, and half in the 1960s to 1970s.

As time passed, the gangs became quasi-institutionalized, and street socialization became more important. Normal adolescent interests in partying and dating combined with street socialization and the gang value of defiance of authority to lead the gang to accept or encourage drug use by most members and property offenses by some members (Moore and Vigil 1989). Most serious drug users in these neighborhoods began their drug use with gang "homeboys," i.e., fellow gang members. The gangs are—intentionally—highly visible: they fight other gangs and they spray their signature graffiti all over the place. Police harass them and some members go into juvenile facilities for variable periods of time. The point of this description is that the popular, police, and social-science stereotypes of the gang are invalid for these groups.

The gang is at its peak in adolescence. It is the rowdiest of all the adolescent peer groups in any given community. It has the reputation of being—and usually is—the roughest, the most drug using, and the most sexually active group around. There is violence inherent in some of the gang processes. But it *is* an adolescent group, not a unit in a massively organized crime syndicate. Apart from gang fighting, graffiti, and occasional forays into vandalism, which *are* gang activities, delinquency, including drug dealing, is a matter of individual or pair activity, not an activity of the gang as a whole (Moore and Vigil 1987).

Over time, the gang continues to be marginally salient to a fraction of employed and married young adults who, for a few years, keep on "going down to the neighborhood" to hang out with the homeboys on weekends or after work. But these ties tend to dissolve over time, especially after children are born. The clique has ceased to function when "you go down to the neighborhood and there's nobody there," as one man put it. But gang ties are very important in adulthood for those members who become seriously involved in drugs or are imprisoned. Violence is different, with different roots, in the adolescent period and in adulthood. Violence among adult ex-gang members tends to be intense in prison, with prisoners replicating the gang affiliations and gang battles of adolescence, typically on a broader scale (Moore 1978). Gang members also kill and are killed during adulthood in the course of individual criminal activity, often drug related, but such violence is clearly not gang related.

These observations imply that gangs change. The White Fence gang of the 1980s is not the same as the White Fence gang of 1960: there are continuities, but there are also changes. What anybody "knows" about a gang in any given year—even a gang member's knowledge—may in certain specifics be out of date the very next year.

Some of these changes are particularly important to the question of the kind of violence that is uniquely and distinctively gang related—that violence that stems from fights between rival gangs during adolescence. In East Los

Angeles, gang warfare became increasingly lethal. In the 1970s, in Los Angeles, far more Chicanos than blacks were killed in gang warfare, for example (Loya et al. 1986).

Our research suggests that this escalating gang violence was primarily related to gang processes during adolescence (Moore 1989). Each clique wanted to match or outdo its predecessor clique in standing up for the gang name, and, for many cliques, this meant increasing the rate and intensity of violence. It meant more guns and more impersonal violence directed at bystanders in, for example, drive-by shootings. The general escalation of violence also may have been related psychopharmacologically to drug use within the gang: there was increased polydrug use and more use of drugs like barbiturates and PCP, which have been found to be associated with violence. More recent, and generally more violent, cliques—those active in the 1970s—were using significantly more drugs during their late teens—the more violent years (table 1).

TABLE 1. *Mean number of drugs used (including alcohol) by age, cohort, and sex*

	Ages									
	11	12	13	14	15	16	17	18	19	N
Males Cliques										
1970s	.4	.8	1.6	2.1	2.6	2.9	2.7	2.2	2.5	60
1950s	.2	.3	.8	1.4	1.9	1.7	1.7	1.3	1.6	46
Females Cliques										
1970s	.1	.4	1.4	1.6	1.8	2.5	2.2	2.3	2.0	33
1950s	.1	.2	.5	.8	1.2	1.7	1.4	1.2	1.6	18

NOTE: Kendall's tau showed significant differences between 1970s and 1950s cliques in distributions of number of drugs used as follows: males at ages 12 (>.05), 13 (>.10), 14 (>.05), 15 (>.01), 16 (>.001), 17 (>.001), 18 (>.001), and 19 (>.001); females at ages 14 (>.05), 16 (>.01), 17 (>.01), and 18 (>.001).

It is important to note that within this general escalation of violence, there was substantial interclique variation. Most of this variation was related to elements of the gang subculture, like the clique's emphasis on and definition of *locura* or wildness, and to the increasing reliance on street socialization over the years. In some cliques, *locura* was defined in violent terms, but in others, even in gangs with a long history of violence, *locura* came to be defined more in terms of drug experimentation than of violence, and the cliques were quite peaceful. However, Cloward and Ohlin's notion that crime for profit cannot tolerate the chaos of violence in gangs was not

corroborated: there was no statistically significant relationship between the number of members in the clique dealing drugs and the number of deaths in gang warfare. As a sidelight, it may be interesting to note that gang member reminiscences suggest that gang warfare declined during the first years after the introduction of heroin use in the 1950s, when users went from one neighborhood to another to buy the drug.

After a decade or more of escalation, the level of lethal intergang violence in East Los Angeles began to decline in the 1980s sharply (Baker 1988). Why? There are several possible answers. The simplest may be that intergang violence has its own dynamics. It stands to reason that a gang whose members are regularly killed will ultimately have some difficulty in recruiting—even from the most ambitiously rowdy youngsters. Thus escalating violence may carry the seeds of its own destruction.

But there are other possible explanations. One is that, in the 1970s, during the peak of gang violence, East Los Angeles saw one gang program after another disappear. Earlier studies indicated that such programs—usually community based—were recalled by most members as providing real, and occasionally long-lasting, links to conventional life (Moore et al. 1978). As those programs disappeared, the gangs were increasingly left to themselves—and to the police. This may actually have enhanced gang members' sense that they were "outlaws," not acceptable in community programs. Yet in the 1980s, a program funded by the California Youth Authority began to hire gang members in East Los Angeles to mediate and reduce the violence, on a gang-by-gang basis. A number of respondents in our East Los Angeles study felt that this program not only effectively reduced violence, but also had an even broader effect: in addition to their mediating functions, the gang-member workers provided a continuous link with conventional life in the community and a continuing reminder that there was a different way of doing things.

Yet a third possible explanation has to do with some other changes in the gangs. Age grading may be starting to blur, so that an increasing number of gang members fail to "mature out" of gang membership because of economic and demographic changes in the community. Increased numbers of men in their late twenties and thirties remain affiliated with the gang (Vigil 1989), often mixing with adolescent members, and perhaps serving as moderating influences in gang warfare. There is some question about this, however. Young adult gang members who go back to their gang hangouts can readily be drawn into gang battles that are really those of younger cliques. Thus, in some 45 incidents of gang-war violence in one of these gang neighborhoods studied during 1976, almost half of those involved were in their early twenties (Spergel 1984; Klein and Maxson 1985).

In summary, gangs do change. Each of our cliques went through a stormy adolescent period with some fraction clinging to gang membership into

adulthood. Each successive clique showed very different kinds of behavior and values. Beyond the obvious fact that gangs may become quasi-institutionalized over time, it is very difficult to predict exactly how they will evolve (Moore 1988b).

DIFFERENCES FROM PLACE TO PLACE AND GROUP TO GROUP

If gangs differ from one time to another, it is obvious that they differ from one place to another and from one ethnic group to another. Gangs appear in distinct "culture areas," and these culture areas differ from one ethnic group to another even within the same city. They also differ from one city to another, even within the same ethnic group.

These variations are important in understanding gang violence. For example, during the 1970s, deaths from gang violence were very high among Hispanics in both Los Angeles and Chicago, but were low among blacks in both cities. Currently, the reverse is true in Los Angeles, and Chicago seems to be going through a similar transformation (Curry and Spergel 1988). Whatever is happening to gangs in these two cities is occurring differently in black and Hispanic communities.

Furthermore, what little comparative research has been done on gangs shows significant differences in social structure from one culture area to another. The gangs studied in East Los Angeles are age graded, but members very rarely "graduate" from one clique to another. They do graduate in Hispanic gangs that have been studied in the Midwest. The East Los Angeles gangs are informally organized, without acknowledged leadership. Black gangs studied in both Los Angeles and Milwaukee are more formally organized, with preplanned meetings, dues, and officers (Hagedorn 1988).

In addition, to return to Cloward and Ohlin, poor minority communities have been differentially affected by recent economic restructuring. For example, many rustbelt black communities have been economically devastated (Wilson 1988), while many Hispanic communities have experienced a large influx of exploitable immigrants: the effect on adolescent gang formation and behavior is different (Moore 1989; Hagedorn 1988). The variations between gangs in different culture areas are unquestionably related both to gang violence and to drug-using and drug-dealing patterns, both in adolescence and adulthood (Moore 1988a). These variations also underscore the need for an empirically based taxonomy of gangs that is related to community variations. What is true for one gang is not necessarily true for another.

GANG VIOLENCE AND INDIVIDUAL VIOLENCE

The second major stereotype, the tendency to attribute all behavior performed by gang members to the gang as a whole, becomes very important in untangling many of today's confusions about so-called gang violence. One of the most common interpretations of today's gang violence, for example, is that it stems from gang involvement in increasingly violent drug marketing.

As noted, in the East Los Angeles gangs we have studied, some members in their peak adolescent years committed property offenses—usually small scale—and sometimes these involved violence. Occasionally the member did this on his or her own, but more often with another homeboy or homegirl (Moore and Vigil 1987). Was this gang-related violence? Gang members would fiercely contest such an interpretation. They would argue that it was not a *gang* activity, but an individual activity.

The same pattern continues into young adulthood, but the line becomes blurred. By this age, a good portion of the gang—usually the more stable members—are involved in their jobs and their families, and their priorities have changed. Some of these married men and women may occasionally still appear in gang hang-outs, but many of the older hang-out regulars are involved in a drug-related street lifestyle, with continuous "ripping and running." Many of the drug users market drugs—and so do some of the nonusers: it is a lucrative business unless or until they are arrested. Almost inevitably, dealers turn to their homeboys and homegirls when they do go into business. Some of the drug deals go sour, and there is violence. Is *this* gang-related violence? Again, gang members would contest such an interpretation. The gang itself is not acting as a unit to deal drugs, but individual members of the gang are dealing drugs, and drawing on one another as partners, completely outside the context of the gang as a whole.

Does it make any difference? Yes, it does. Many of the people hanging around with the gang in young adulthood are at loose ends with their lives, still involved in adolescent loyalties and preoccupations. They are, not, however, caught up consciously in a violence-prone criminal activity. They may be aware of such activities, and they may occasionally dabble in illegal income-generating activities, but they have not, in their minds, joined a criminal group. This self-concept makes a difference.

It is particularly important to sort out the drug factor, because it has generally been assumed that the recent increase in gang-related violence in a number of cities is related to the increase in gang involvement in the sales of cocaine and crack. It has been assumed that gangs were a ready-made crack marketing unit, since they were already organized. And it has further been assumed that gangs were highly prone to violence. Police subscribed to this interpretation, and so have the media.

However, when these assumptions were actually tested with Los Angeles Police Department data for 1983 to 1985, they proved to be unfounded (Klein et al. 1988). Cocaine drug sales did increase markedly during the period, as expected. Involvement of individuals identified as gang members in drug sales did increase slightly, but the overwhelming majority of individuals arrested by police in these five South Central Los Angeles stations (75 percent) were not gang members. In cases in which more than one person was involved in the drug sale, the number of members from the same gang actually declined. Most important, perhaps, was that when gang members were involved in cocaine sales, the transactions were not more likely to involve violence or even the use of guns.

Most of the arrests were for small-scale drug dealing. Arguing that such low-level activities are less likely to provoke much violence, the researchers thought that they might get some answers by looking at homicides. The answers point in the same direction: drug motives did not increase in importance for homicides involving gang members, whereas they did for homicides that did not involve gang members. Cocaine, then, had the effect of generating violence, but it did not appear to be mediated by gang-member involvement.

These are surprising findings only if one has in mind the image of "gang" as a tightly organized, violence-prone, criminal conspiracy, ready to move into drug dealing effectively and efficiently when a new drug comes along. Or if one believes that whatever a gang member does necessarily involves the gang as a whole. Some of the gangs involved in the arrests in South Central Los Angeles may well be like this, and, since 1985, more gangs may have become like this. There are gangs like this in other cities. Padilla, for example, argues that the Chicago Puerto Rican gangs he studies are such "ethnic enterprises" (Padilla, personal communication, 1989). It may be that some of the more loosely organized gangs will evolve to become organized criminal groups (Moore 1988b). Such an evolution is not evident from the arrest data, nor is it apparent from popular media portrayals or from beliefs of the police. In fact, Klein et al. (1988) took their hypotheses from Los Angeles police beliefs, and one of the more interesting implications from their research was that the police beliefs were wrong. Inciardi (1989) reported that a similar media connection was made in Miami between gang activity and crack dealing. But Miami grand juries empaneled in 1985 and again in 1988 (after a substantial increase in the number of gangs) found that youth gangs were not involved in crack dealing. Again, police and media perceptions can be erroneous and seriously misleading.

To confound the matter further, in at least two cities—Detroit and New York—research on crack-dealing organizations found that, although these organizations call themselves gangs, they did not grow out of youth gangs, and they had none of the characteristics described earlier (Fagan, personal

communication, 1989; Taylor 1990). They are actually criminal organizations, and they happen to call themselves gangs. There are also youthful criminal organizations that deal cocaine in New York (Williams 1989), but they too are not youth gangs.

The crack economy has vastly increased the number of drug dealers in several inner-city communities: the technology and availability of cocaine have coincided with a shriveling of decent job opportunities in many of these communities. According to recent evidence, crack dealing almost invariably involves violence; dealers threaten both each other and the community (Johnson et al., in press). But the role of gangs in this expanding crack economy is still questionable and poorly understood.

IMPLICATIONS

To recapitulate what has been said so far, there is one kind of gang-related violence that is inherent in gangs—intergang conflict. Gang members and innocent bystanders alike are hurt and killed by this kind of violence. Sometimes it seems that this kind of violence is self-perpetuating, continuously escalating. But, as the East Los Angeles case illustrates, intergang conflict can also decline, and the declines may happen "naturally" (on their own) or with the help of programs that intervene. Such declines may have little if anything to do with drugs.

There is another kind of violence that appears related to gangs, but the connection is even fainter. That violence is the kind that is related to illegal activity, particularly drug marketing. It is not safe to assume that drug-related violence is inherent in gangs. Some youth gangs gradually develop into criminal organizations, but this is not the norm. Some violent criminal organizations may be composed of men and women who were once associated with gangs, but there is little evidence that this is the norm, either. However, there certainly is evidence that violent drug-dealing organizations have grown and flourished without gang connections.

In many cities throughout the country, gangs have been cropping up for the first time since the 1950s (Needle and Stapleton 1983). Gangs have proliferated at the same time as crack cocaine dealing has proliferated, in many of the same neighborhoods. Police and media have been quick to jump to the conclusion that the two are connected and that we are facing a national—or at least a regional—conspiracy. But, in at least two cities, Milwaukee and Columbus, in which police made such claims about gang connections to nearby metropolitan gangs, there is research evidence to the contrary (Hagedorn 1988; Huff 1988). Even though they had similar names ("Vice Lords"), in neither city were local gangs actually drug-dealing branches of gangs in larger cities.

There may be an alternate explanation for gangs to be proliferating in the 1980s, just as there is for there to be an upsurge in illegal drug marketing—gang and nongang—in these communities. If a community's economy is not based solidly on wages and salaries, other economies will begin to develop. Welfare, bartering, informal economic arrangements, and illegal economies become substitutes—simply because people must find a way to live. Young people growing up in these communities have little to look forward to.

Research on gangs should take economic factors into account. Such considerations would help transcend the limitations of earlier community-oriented taxonomies of gangs, as well as the naive empiricism of many studies. Any new taxonomy of gang violence as related to drugs must take into account the variations in local underclass development and in local underground economies, especially the extent to which these underground economies are based in drug dealing. By no means are all of them based in drug dealing, as Sullivan (1989) indicates.

In addition, ethnicity and other subcultural variations should be recognized. As part of this, variations in gang social structure and in gang values about violence and the gang's role in the neighborhood should be included as variables affecting the extent to which gangs may become involved in violent drug dealing. Even the scanty data now available point to these variables as critical in explaining variations in gang violence. Although the analysis presented here falls short of a taxonomy to replace that of Cloward and Ohlin, it seems clear that such a taxonomy should be a goal for future research.

PROBLEMS IN GANG RESEARCH

Part of the stereotyping of gangs occurs because it is difficult to conduct empirical research on gangs without falling victim to a variety of distortions. The most obvious is that much research is conducted with gang members in more or less coercive institutional settings, and the nature of the setting may affect or distort the findings.

Few people study gangs on the streets or in their natural settings. There is no strong tradition of street ethnography, as there is with research on illicit drugs (Akins and Beschner 1980), and it is obviously more difficult to do street ethnography with any youth group, let alone a quasi-illicit one.

In contrast to street ethnography, other unique limitations are found in studies based on interviews in correctional settings. First, of course, there is a sampling problem: gang members that go to jail are not necessarily representative of the gang. Then, too, research inside institutional settings is constrained by the fact that the status-set of the respondent revolves around his or her inmate role—present, past, or future. The gang member

is so removed from the everyday realities of the gang–home–community web and so concentrated on his or her own offense and the gang in prison that distortions are bound to occur even if there were motivations to be truthful. Unless the respondent has reason to trust the interviewer, there is no particular incentive to be truthful, while there may be many incentives to distort. Researchers who rely only on police statistics about gangs and gang members, of course, are on particularly shaky grounds (Moore 1988a).

Research done out of community agencies—e.g., gang intervention programs—poses similar problems. There is a sampling problem, even when researchers make strenuous efforts to avoid bias (Fagan 1989). A potential motivational distortion is that repentant or "redeemed" gang members in a program may overemphasize the evils of the gang they have just left, and program staff—usually embattled in any local government—may have even stronger selective and interpretive biases, trying to justify their own program. In addition, active young gang members are often so caught up in their own fantasies and mythologies that a researcher may find it difficult to extricate self-aggrandizing myths from the often grubby realities.

The East Los Angeles research reported earlier uses a research strategy that has concentrated on retrospective studies of gang life. In what is termed a "collaborative model" (Moore 1977; Moore et al. 1980). This is similar to the street ethnography approach, with the important exception that research contact points are men and women who have been members of the gangs and that research design and instruments are developed in collaboration with these same people. For example, in research based on the collaborative model, there is a heavy reliance on lengthy, semi-structured interviews. This means that academic members of the research team, with all of their misperceptions, false questions, and facile misinterpretations, must actually interact with men and women who have been immersed in the gang subculture, and test out questions and ideas before they integrate them into research designs and methods. This has been one of the most important benefits of the collaborative approach: the continued confrontation with an emic perspective is a vital corrective. The collaborative approach also provides an effective means to develop a probability sample of gang members (Moore and Long 1987), since an accurate roster of original members can be compiled, and a high proportion can be located by utilizing ex-gang-member staff networks. Such research may have limitations often associated with retrospecitve research, but those limitations are not necessarily inherent in the collaborative approach. Hagedorn (1988), for example, used the collaborative approach with active young adult gang members, to obtain information about current status as well as gang history.

In sum, all research on illicit and quasi-illicit activity poses serious questions of emic validity: because gang members are usually involved in illicit activity to some degree, but gangs are also adolescent groups, their study poses particular challenges to sociological and ethnographic research.

FOOTNOTES

1. Data are derived largely from grant DA O3114 from the National Institute on Drug Abuse. Points of view and opinions stated do not necessarily represent the official position or policy of the National Institute on Drug Abuse. For details on sampling, etc., see Moore and Long (1987).

REFERENCES

Akins, C., and Beschner, G., eds. *Ethnography: A Research Tool for Policymakers in the Drug and Alcohol Fields.* DHHS Pub. No. (ADM)80-946. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1980. 128 pp.

Baker, B. Chicano gangs: A history of violence. *Los Angeles Times,* December 11, 1988. p. 1.

Cloward, R., and Ohlin, L. *Delinquency and Opportunity.* New York: The Free Press, 1960. 220 pp.

Cohen, S. *Folk Devils and Moral Panics.* Oxford: Martin Robinson, 1980. 224 pp.

Curry, D., and Spergel, I. Gang homicide, delinquency, and community. *Criminology* 25:381-405, 1988.

Fagan, J. The social organization of drug use and drug dealing among urban gangs. *Criminology* 27:633-670, 1989.

Hagedorn, J. *People and Folks.* Chicago: Lake View Press, 1988. 237 pp.

Horowitz, R. The end of the youth gang. *Criminology* 21:585-600, 1983.

Huff, R. Youth gangs and public policy in Ohio: Findings and recommendations. Presented at the Ohio Conference on Youth Gangs and the Urban Underclass, Columbus, OH, May 25, 1988.

Johnson, D. *Policing the Urban Underworld.* Philadelphia: Temple University Press, 1979. 240 pp.

Johnson, B.; Williams, T.; Dei, K.; and Sanabria, H. Drug abuse in the inner city: Impact on hard drug users and the community. In: Tonry, M., and Wilson, J.Q., eds. *Drugs and the Criminal Justice System.* Chicago: University of Chicago Press, in press.

Klein, M.; Maxson, C.; and Cunningham, L. *Gang Involvement in Cocaine "Rock" Trafficking.* Final Report for the National Institute of Justice. Los Angeles: University of Southern California, 1988.

Klein, M.; Maxson, C.; and Gordon, M. Differences between gang and non-gang homicides. *Criminology* 23:209-220, 1985.

Kornblum, W. Ganging together: Helping gangs go straight. *Soc Issues and Health Rev* 2:99-104, 1987.

Loya, F.; Garcia, P.; Sullivan, P.; Vargas, L.; Allen, N.; and Mercy, J. Conditional risks of homicide among Anglo, Hispanic, Black and Asian victims in Los Angeles, 1970–1979. In: *U.S. Department of Health and Human Services, Report of the Secretary's Task Force on Black and Minority Health, Vol. 5: Homicide, Suicide, and Unintentional Injuries.* Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1986.

Miller, W.B. Lower class culture as a generating milieu of gang delinquency. *J Soc Issues* 14:5-19, 1958.

Miller, W.B. *Violence by Youth Gangs and Groups as a Crime Problem in Major American Cities.* Washington, DC: U.S. Dept. of Justice, Office of Juvenile Justice and Delinquency Prevention, National Institute for Juvenile Justice and Delinquency Prevention, 1982.

Moore, J. The Chicano Pinto Research Project: A case study in collaboration. *J Soc Issues* 33:144-158, 1977.

Moore, J. Cooking gang statistics. *Los Angeles Herald Examiner,* January 30, 1988a.

Moore, J. Introduction: Gangs and the underclass: A comparative perspective. In: Hagedorn, J. *People and Folks.* Chicago: Lake View Press, 1988b. pp. 3-17.

Moore, J. Is there a Hispanic underclass? *Soc Sci Q* 70:265-284, 1989.

Moore, J.; Garcia, R.; Garcia, C.; Cerda, L.; and Valencia, F. *Homeboys: Gangs, Drugs, and Prison in the Barrios of Los Angeles.* Philadelphia: Temple University Press, 1978. 239 pp.

Moore, J.; Garcia, R.; and Salcido, R. Research in minority communities: Collaborative and street ethnography models compared. In: Akins, C., and Beschner, G., eds. *Ethnography: A Research Tool for Policymakers in the Drug and Alcohol Fields.* DHHS Pub. No (ADM)80-946. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1980. pp. 46-63.

Moore, J., and Long, J. *Final Report: Youth Culture vs. Individual Factors in Adult Drug Use.* Los Angeles: Community Systems Research, Inc., 1987. 61 pp.

Moore, J., and Vigil, D. Chicano gangs: Group norms and individual factors related to adult criminality. *Aztlan* 18:27-44, 1987.

Perkins, U.E. *Explosion of Chicago's Black Street Gangs 1900 to Present.* Chicago: Third World Press, 1987. 80 pp.

Spergel, I. Violent gangs in Chicago: In search of social policy. *Soc Service Rev* 58:199-225, 1984.

Sullivan, M. *Getting Paid.* Ithaca, NY: Cornell University Press, 1989.

Taylor, C. *Dangerous Society.* East Lansing, MI: Michigan State University Press, 1990.

Thrasher, F. *The Gang.* Chicago: University of Chicago Press, 1927. 571 pp.

Vigil, D. *Barrio Gangs.* Austin: University of Texas Press, 1989.

Williams, T. *The Cocaine Kids.* New York: Addison-Wesley, 1989.

Wilson, W.J. *The Truly Disadvantaged.* Chicago: University of Chicago Press, 1988. 254 pp.

Yablonsky, L. The Violent Gang. Baltimore: Penguin, 1970. 313 pp.

Zatz, M. Chicano youths and crime: The creation of a moral panic. *Contemporary Crises* 11:129-158, 1987.

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The Interrelationships Between Alcohol and Drugs and Family Violence

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INTRODUCTION

The relationships between family violence and alcohol and drug problems are multidimensional and complex. For example, family violence may occur when the perpetrator has been using or abusing alcohol, drugs, or both, or the experiences of family violence may lead both to short- and long-term consequences that include alcohol and drug problems. This chapter presents research findings that explore these multidimensional relationships between family violence and alcohol or drug problems. Three forms of family violence will be considered: child abuse, childhood sexual abuse, and spousal violence.

Family violence has received more attention from researchers during the past 15 years. In 1975, estimates of family violence were obtained from self-report data for a nationally representative sample of 2,143 families (Straus et al. 1980). This nationwide survey was repeated in 1985 with 6,002 families, and comparisons to the original survey were made (Straus and Gelles 1990). Findings revealed that nearly two-thirds of parents reported using either minor or severe violence against their children for the year before the survey in both 1975 and 1985 (63 percent and 62 percent, respectively).[1] Spousal violence (minor and severe) was reported for 16 percent of the couples in the year before the survey for both the 1975 and 1985 surveys (Straus and Gelles 1990). Despite the evidence of family violence and the central role of families in our society, there is an incomplete understanding of how alcohol and drug problems affect family relationships, family stability, and family violence.

In 1985, a nationwide random survey indicated that 22 percent of the population had experienced some form of childhood sexual abuse (Timnick 1985) with a greater proportion of females sexually abused (27 percent)

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than males (16 percent).[2] Rates of female sexual abuse were as high as 54 percent in a random sample of women surveyed in San Francisco (Russell 1983) and 62 percent in a random sample of women in Los Angeles County (Wyatt 1985). Both incest and nonfamilial sexual abuse are included in definitions of childhood sexual abuse; thus, childhood sexual abuse also includes violence that originates outside the family.

After a brief review of the literature, recent findings from research conducted by the author and her colleagues are presented. Results from two different studies are presented. The first is a comparison study of alcoholic women in treatment and a random sample of women in the general population. Experiences of child abuse, childhood sexual abuse, and spousal violence are compared for these two groups. This study was done in collaboration with Dr. William Downs, State University of New York at Buffalo, and a larger study continuing these investigations has been funded by the National Institute on Alcoholism and Alcohol Abuse.

The second study focuses on a sample of parolees and their spouses and examines the interrelationships between alcohol and drug abuse and family violence. These interrelationships are examined for three generations: parents of parolees and parolees' spouses, parolees and their spouses, and, in a more limited way, children of parolees. This study was done in collaboration with Drs. Howard Blane and Kenneth Leonard, Research Institute on Alcoholism, Buffalo, NY, and was funded by the National Institute of Justice.

INTERRELATIONSHIPS BETWEEN SPOUSAL VIOLENCE AND ALCOHOL AND DRUG PROBLEMS

Review of Literature

Over the last 10 years, a large body of descriptive data suggesting that alcohol use, intoxication, or both may be related to spousal violence has been presented (Byles 1978; Coleman and Straus 1979; Hilberman and Munson 1978; Leonard et al. 1985; Van Hasselt et al. 1985). Male batterers and their victims commonly report that the batterer had been drinking or was drunk during many of the abusive incidents (Chimbos 1978; Gayford 1975; Gelles 1972; Nisonoff and Bitman 1979; Pernanen 1979). Other studies have assessed whether the male batterer had a drinking problem (Fagan et al. 1983), or whether he was an alcoholic (Roy 1982). In a random household survey, Kantor and Straus (1989) reported that 70 percent of the husbands who had severely assaulted their wives reported being drunk one or more times during the survey year as compared to 50 percent of the husbands who victimized their wives with more moderate violence and 31 percent of the husbands who did not victimize their wives.

There has been relatively little information on the role of drugs in domestic violence. In conceptualizing the drug–violence nexus for drug users, Goldstein (1985) identified three major types of violence resulting from drug involvement: psychopharmacological, economic compulsive, and systemic violence. Psychopharmacological effects of drugs on behavior may be identified in cases in which the offender exhibits irrational, excitable behavior as a consequence of drug ingestion. Although domestic violence may result from psychopharmacologic effects, some drug use may actually ameliorate violent tendencies. Economic compulsive violence occurs when the drug user engages in violent crimes to support costly drug use. This type of violence may emerge between spouses when drug users take money from the spouse; further, arguments between spouses about money could lead to violent altercations. Systemic violence refers to the traditionally aggressive patterns of interaction within the system of drug distribution and use. Examples are punishment for selling adulterated or phony drugs or elimination of informers. Domestic violence may be categorized as systemic violence in a limited fashion; for example, if a man discovers that his spouse has acted as an informer, he may pursue violence to enforce and protect his operations.

While Goldstein's tripartite conceptual framework offers some explanation of violence that could describe spousal violence, his conceptual framework was not derived from domestic violence encounters. Rather, it was derived from accounts of violence perpetrated by drug users, and there was not a systematic attempt to identify domestic violence scenarios. Additional components may need to be added to this conceptual model to explain the violent familial interactions or childhood sexual abuse that are related to drug abuse, alcohol abuse, or both. Explanations for the relationships between alcohol use and family violence include the perspective that heavy alcohol use precedes family violence as a means of excusing or rationalizing the violent behavior. Coleman and Straus (1983) argue that violence is excused and forgiven because of drinking and this behavior would not be tolerated without the drinking. This same learning model may apply to drug use and family violence. Thus, an individual who wishes to express violence toward another individual may perceive that being "high" on drugs will excuse the behavior in the eyes of family, friends, and possibly even the victim.

Violence directed toward drug-using women may also be explained by our normative expectations of what is appropriate behavior for women. Women with alcohol or drug problems may be at a higher risk of spousal violence because they are viewed by their partners as acting inappropriately. Kagle (1987) has noted that a drunken man is viewed as funny, while a drunken woman is viewed as obnoxious or unfeminine. Characterization of female drug users by both males and females in the drug world are typically more negative and demeaning for women. In a study of incarcerated male and female drug users, women were described as the lowest of the low: "Broads on dope get radical, sleezy, snakey" (Fox et al. 1977, Appendix B).

Sandmaier (1980) contended that when women drink, they have a tendency to become more verbally aggressive. This aggression violates the gender role norms. Thus, it may be perceived as more acceptable for a man to hit a woman who is not behaving in an acceptable feminine role. Further, women who are drug abusers are frequently prostitutes (Miller 1980; Goldstein 1979; Rosenbaum 1981). This role may result in further conflicts about the appropriate behaviors for women in the drug scene.

The majority of previous investigations have focused on the batterer's use of substances (Eberle 1982; Frieze and Knoble 1980; Gelles 1972; Gerson 1978). The victim's alcohol or drug problems also need to be considered in assessing violence between couples. Kantor and Straus (1989) reported that 46 percent of the severely assaulted women in their sample were drunk one or more times during the survey year, contrasted with 36 percent of the minor violence victims and 16 percent of the nonvictimized women. Similar relationships between the victim's use of drugs and spousal violence have been found. In a study of drug users and distributors in New York City, Goldstein et al. (1988) found that 20 percent of the female regular cocaine users and 31 percent of the moderate cocaine users experienced violence from a spouse or lover. In contrast, only 2 percent of the male regular cocaine users had experienced violence from a spouse or lover, while 7 percent of the male moderate users had experienced such violence. This suggests that female drug users may be at greater risk for spousal violence than male drug users. Alcohol or drug use of the victim has not only been associated with a greater risk of spousal violence occurring, but also with a greater risk of frequency and duration of abuse and a greater risk of serious injury (Fagan and Wexler 1985).

Further complicating the interrelationships between spousal violence and the perpetrator's and victim's abuse of alcohol and drugs have been findings that indicate women who report heavy drinking patterns were in relationships with men who also abused alcohol (Walker 1983). Thus, the examination of the interrelationships between spousal violence and alcohol and drug abuse should, whenever feasible, include both victim and perpetrator's substance use.

Study I: Comparison of Alcoholic Women and a Random Sample of Women

In our first study to test the relationships between spousal violence and alcohol abuse, the focus was on whether spousal violence relates to the development of women's alcohol problems. To explore this question, we compared levels of spousal violence for a sample of women alcoholics with a random sample of women in the community.

Methodology. The methodology for this study has been described in detail in Miller et al. (1989). Briefly, samples of 45 alcoholic women and 40

women from a random sample of women in the community were obtained for interviews. Alcoholic women were identified through women's treatment groups at alcoholism outpatient treatment agencies and by using a snowball sample obtained through Alcoholic Anonymous (AA) groups. The comparison group was identified through random digit dialing. Interviews were conducted from January until June 1986. Interviews lasted approximately 2 hours.

Adult alcohol use was measured both by questions on quantity and frequency of use and the Michigan Alcoholism Screening Test (Selzer 1971). These measures allowed us to insure that alcoholic women were not included in the random sample. The Conflict Tactics Scale (CTS) was used to measure spouse-to-woman violence (Straus 1979; Straus et al. 1980). Negative verbal, moderate, and severe violence indices were formed from the specific items, following definitions by Straus et al. (1980) and Kantor and Straus (1989). These indices were modified to add two items to the negative verbal subscale, "insulted or swore at you in a sexual manner" and "threatened to abandon you," and one item to the serious violence subscale, "threatened your life in some manner." For the purposes of these analyses, each CTS item was dichotomized into "never happened" (code=0) and "happened at least once" (code=1). One point was scored for each CTS item that happened at least once. The subscales on moderate and severe violence consisted of six items each.

Interrelationships Between Spousal Violence and Women's Alcohol Problems. Alcoholic women were significantly more likely to report higher levels of conflict with spouses as measured by the negative verbal ($\bar{x}$=4.67 vs. 2.62, p<.0001), moderate ($\bar{x}$=2.47 vs. 0.64, p<.0001), and serious violence ($\bar{x}$=1.29 vs. 0.26, p<.01) subscales from the Conflict Tactics Scale (Miller et al. 1989). Virtually all of the individual items that comprise the negative verbal, moderate violence, and serious violence indices were reported by significantly more alcoholic women as compared to the household women.

To determine whether the level of spousal violence differentiated between the two groups when controlling for other variables that were statistically different between the two groups (i.e., demographics, changes in parental family, income index) and that were conceptually important (i.e., parental alcohol problems, father-to-daughter violence scores, spouse alcohol problems), a hierarchical regression analysis was completed. Since spousal violence was entered last, the increase in R^2 was a conservative estimate of the contribution of spousal violence. Once age was controlled, the strongest predictor of sample type was the spouse-to-woman CTS score (table 1). Age and spousal violence were the only two significant predictors for the equation. Following the entry of all other variables, spousal violence still contributed 6 percent to the total explained variance. The adjusted R^2 (.53)

indicates that the variables are powerful predictors of the differences between the two groups.

TABLE 1. *Role of spousal violence controlling for childhood and present family variables in predicting type of sample*

Independent Variables	B*	Beta**	p (1-tailed)	$R^{2\dagger}$
Present Age	.02	.36	<.0001	.24
Parent Alcohol Problems	.12	.12	.1211	.36
Father Violence Index	.01	.11	.1089	.41
Changes in Parental Family	.05	.14	.0599	.44
Spouse Alcohol Problems	.17	.16	.0601	.51
Income Index	.03	.07	.2412	.53
Spouse Violence Index	.03	.29	.0036	.59

*The unstandardized regression coefficient is multiplied times the variable score to predict the dependent variable.

**The standardized regression coefficient allows comparisons between variables with higher coefficient values, signifying greater importance in predicting the dependent variable.

†Adjusted R^2=.53. The R^2 represents the proportion of the variance explained by the variable in combination with the preceding variables.

SOURCE: Miller et al. 1989, copyright 1989, Alcohol Research Documentation.

While this study demonstrates a relationship between spousal violence and alcoholic women, we were unable to determine causality. That is, spousal violence may have led to alcohol problems in women, or women with alcohol problems may have been more vulnerable to spousal violence.

Study II: Interrelationships Between Spousal Violence and Alcohol and Drug Abuse for Parolees and Their Spouses

In our second study, the relationship between spousal violence and alcohol and drug use was explored for both perpetrators and victims. Our first question was whether spousal violence was linked to the perpetrator's alcohol or drug problems. A second question was whether spousal violence was linked to the victim's alcohol or drug problems. Data were obtained from both parolees and their spouses. In this study, we were able to obtain information from both parolees and their spouses, and thus have information regarding spousal violence incidents from two perspectives.

Methodology. These analyses were based upon data collected for a larger study on the interrelationships between alcohol, drugs, criminal violence,

and domestic violence across three generations (Blane et al. 1988). The subjects were selected from all male parolees in Western New York during January through June of 1987, who were living in the Greater Buffalo area and were convicted of nonviolent and violent offenses. Subjects were contacted by research staff when they reported to their parole officer and by telephone calls and letters (for infrequent reporters). All available parolees meeting these criteria were approached.[3] A subsample of the larger study was used for the present analyses, consisting of 82 parolees and their spouses or partners. Further details on the methodology are available in Miller et al. (1990).

Subjects with drinking problems were asked questions from the alcoholism section of the Diagnostic Interview Schedule (DIS) (Robins et al. 1981). The total number of lifetime drinking problems was used as the indicator of the seriousness of alcohol problems for the parolee and spouse with one or fewer alcohol problems considered low. Drug abuse was measured using questions derived from the *Survey of Inmates of State Correctional Facilities, 1979* (Bureau of Justice Statistics 1981). Questions determined the number of different types of illegal drugs used (heroin, barbiturates, amphetamines, marijuana, cocaine, LSD, PCP, and other hallucinogens) and the frequency of usage over the lifetime. The number of different drugs used on a regular basis formed the drug problems index. Regular drug use was defined as weekly use of a substance for at least 1 month, with the exception of marijuana, for which daily use for a month was required to characterize the pattern as regular. The sample was then categorized as either having some regular drug abuse or no regular drug abuse.[4]

Parolees and their spouses completed a revised version of the CTS (Straus and Gelles 1986; Kantor and Straus 1989).[5] Each respondent was asked to report specific acts of moderate and severe physical violence that they had perpetrated or experienced within the past 3 months. To estimate violence not dependent on agreement between the couple, a couple-report variable was created. For instance, the couple report for parolee violence was formed by assessing whether either the parolee or the spouse reported any male violence. The couple report for spouse violence was formed in the same way.

Our sample of 82 male parolees and their spouses indicated high rates of alcohol and drug problems. Alcohol problems were present in 76 percent of the parolees and 56 percent of the spouses. Seventy-three percent of the parolees and 40 percent of the spouses reported using some type of illegal drug on a regular basis. Rates of spousal violence were also high for this sample. During the 3 months preceding the interview, 78 percent of the parolees and 72 percent of the spouses perpetrated moderate violence; 33 percent of the parolees and 39 percent of the spouses perpetrated severe violence.

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Effect of Perpetrator's Alcohol and Drug Problems on Spousal Violence. The first research question concerned whether the perpetrator's (parolee's) alcohol or drug problems increased the level of spousal violence that was experienced by the spouse. Examining the contribution of the parolees' alcohol and drug problems to the parolees' violence to his spouse revealed that neither his drug abuse nor his alcohol problems independently contributed significantly to the degree of violence but that the interaction effect, alcohol by drugs, contributed significantly to the level of parolee-to-spouse violence. The interaction effect is depicted in figure 1. The presence of parolee alcohol problems was related to the degree of parolee-to-spouse violence when there were no parolee drug problems. When the parolee had drug problems, his alcohol problems had no impact on parolee-to-spouse violence.

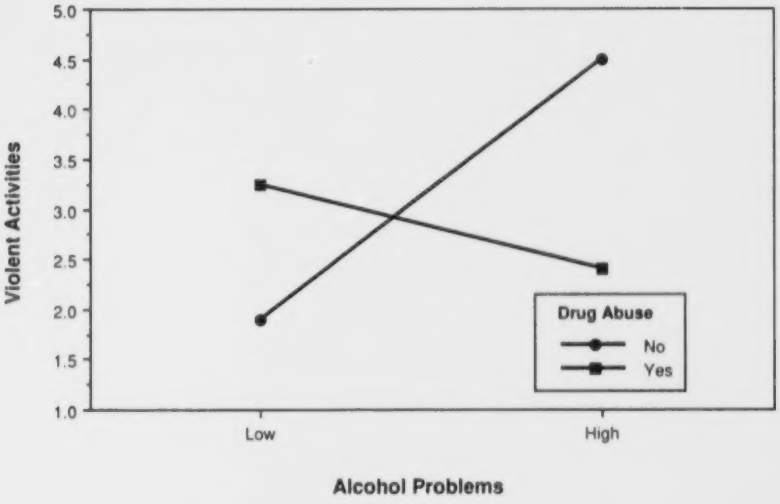

FIGURE 1. *Parolee-to-spouse violence by parolee alcohol and drug abuse*

SOURCE: Miller et al. 1990, copyright 1990, Haworth Press.

Given the potentially different psychopharmacological effects that drugs may have, we hypothesized that combining all drugs under one drug problem score might diminish the importance of individual types of drugs to spousal violence. For three drug categories (barbiturate, cocaine, marijuana) there were sufficient numbers of identified abusers to allow separate regression analyses following the procedures outlined for all drugs. Again, there were no main effects for specific drugs or for alcohol on the degree of spousal

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violence. (Although the analyses were performed separately for each drug, many of the same individuals used two or more of the drugs, thus we do not have entirely independent analyses). Nonetheless, interaction effects were apparent. Both regular barbiturate use with alcohol problems and regular marijuana use with alcohol problems produced significant interaction effects (figure 2). The interaction of cocaine use with alcohol problems was statistically marginal. All three interactions indicate somewhat similar patterns to the one shown for the comprehensive drug abuse by alcohol problems interaction. That is, alcohol abuse increased the risk of parolee-to-spouse violence in the absence of drug abuse, but there was a tendency for alcohol abuse to decrease violence when there was drug abuse. In addition, there were more violent activities (parolee-to-spouse) reported for barbiturate and marijuana users, compared to cocaine users. Previous research has suggested that barbiturate use is correlated with assaultive behavior (Tinklenberg et al. 1974; Tinklenberg et al. 1976; Tinklenberg et al. 1981; Collins 1982). Considering the popular notion that cocaine use increases the violence rate, there was an expectation that cocaine users would have an elevated level of violence or a level of violence at least similar to that for

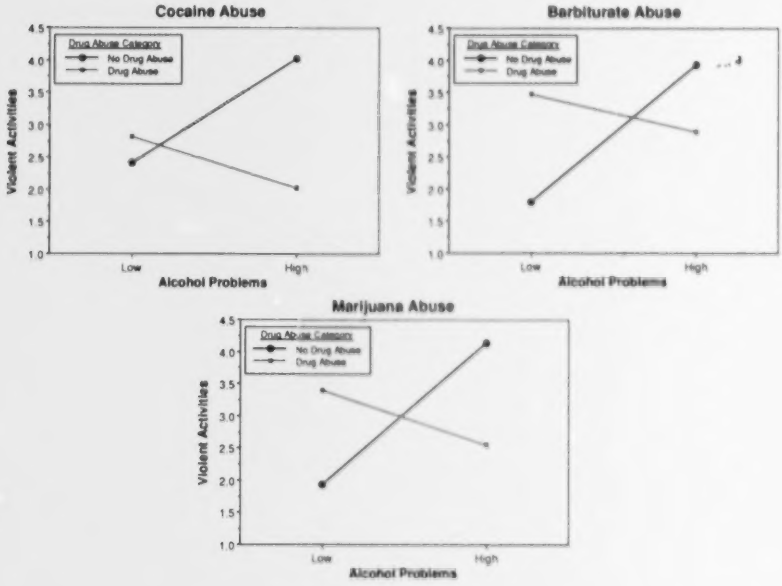

FIGURE 2. *Parolee-to-spouse violence by parolee alcohol problems and parolee use of specific drugs*

alcohol abusers only. Crack use was not separated for these analyses from cocaine because of the relatively low levels of crack use at the time of the data collection.

Effect of Victim's Alcohol and Drug Abuse on Spousal Violence. To explore whether the victim's alcohol and drug abuse affected the level of spousal violence experienced, when controlling for the perpetrator's alcohol and drug problems, regression analyses were completed. Initially, the regression analyses included both his and her alcohol problems and revealed no significant main effects on parolee-to-spouse violence. The addition of the interaction of parolee alcohol problems by spouse alcohol problems was significant, however. As figure 3 indicates, there was more violence initiated by the parolee in couples in which either or both of the individuals in the relationship experienced high levels of alcohol problems than when both had low levels of alcohol problems. Thus, the existence of high levels of alcohol problems in the relationship for either member of the couple appeared to be an important contributor to parolee-initiated violence, but the presence of problems in both members of the couple did not necessarily inflate the level of violence any more than if only one member had reported high levels of alcohol problems.

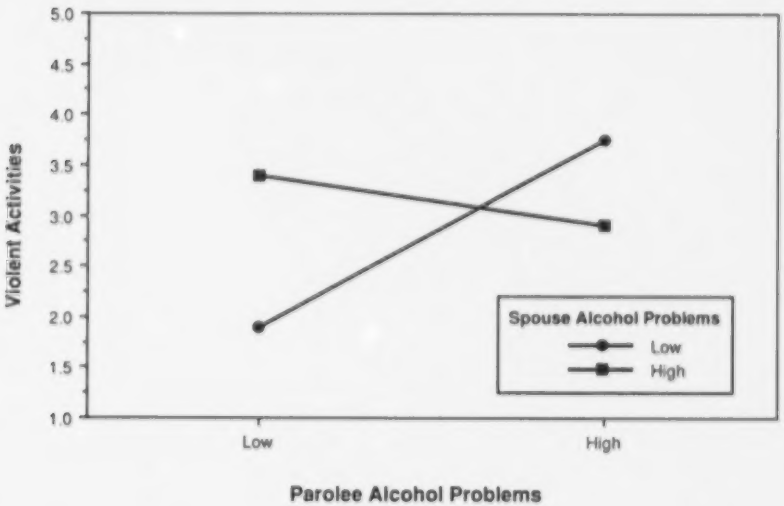

FIGURE 3. *Parolee-to-spouse violence by parolee and spouse alcohol problems*

SOURCE: Miller et al. 1990, copyright 1990, Haworth Press.

Neither the main nor interaction effects of parolee and spouse drug abuse contributed significantly to the equation for predicting his violence to her.

Summary

Our studies have provided evidence that the victim's alcohol problems are related to their experiences of spousal violence. In our first study, women alcoholics were much more likely than a random sample to experience spousal violence. In our second study, the interaction effects suggest that alcohol problems in women contribute to the level of spousal violence women experience. To date, we have not found a positive relationship between the victim's drug abuse and experiences of spousal violence. However, further studies are being conducted to explore this relationship.

In addition, these studies provide evidence that the alcohol and drug problems of the perpetrator are related to the level of violence experienced by the victim. Data from our second study revealed that the relationships between alcohol and drug problems and spousal violence are not simple relationships. The interactions of drug and alcohol problems and the interaction of victim's and perpetrator's alcohol problems were critical to understanding these interrelationships. When parolees reported no drug problems, alcohol problems increased the level of violence. However, alcohol problems did not increase the level of violence when the parolee had drug problems. One possible explanation is that drug use may have ameliorated the violence that was associated with alcohol problems. While intentional self-medication for violent tendencies has not been well documented in the literature, this is a possibility. The psychopharmacologic effects of marijuana and heroin, for instance, have been attributed to "mellowing out" or causing individuals to "nod out," conditions that are likely to ameliorate violent tendencies.

Combined alcohol and drug abuse may produce a situation in which the individual is incapable of responding aggressively. Coleman and Straus (1979) reported a decline in domestic violence among men who were almost always drunk, possibly for a similar reason. Additionally, the spouse of a combined alcohol-and-drug abuser may avoid any confrontations or conflicts, since any productive communication may be futile, thereby reducing the opportunity for domestic violence. Other variables not collected in this study should also be considered. The context in which the drugs were taken might have offered further insight into these relationships. Perhaps there was more likely to be concomitant alcohol use between parolees and spouses than concomitant drug use, which again might have affected the outcome of the behavior.

Alcohol problems within couples may increase stress levels within the family. Lifetime alcohol problems may reflect the higher probability that most interactions between the members of the couple are likely to occur

with heavy alcohol consumption or intoxication. Intoxication has been hypothesized to affect marital interactions in such a way as to produce intense conflict, thereby increasing the likelihood of violence (Leonard and Jacob 1988).

Much of the existing literature has suggested that perpetrators' alcohol problems may explain victims' experiences of violence. Our findings suggest a more complex relationship; victims' drinking is linked to their experiences of violence. What is still unclear is the temporal order between these events. There is some indication that victims' alcoholism leads to spousal violence. According to Sandmaier (1980), alcoholic women are labeled more negatively than nonalcoholic women and men and even alcoholic men, including a variety of labels that denote or connote "sexual looseness." This negative labeling may directly affect negative verbal interactions (including sexual and other insults) directed at them by the spouse and may indirectly increase spousal violence directed at alcoholic women. Violence may be perceived as more socially acceptable when directed at negatively labeled women and drinking may reinforce this negative label.

Further research is needed into the effect of women's drug use on spousal violence. Our sample of spouses did not have sufficient numbers of women using drugs to test the effect of their drug use on spousal violence. Studies are planned with a sample of drug-abusing women to explore these relationships further. Additional studies on alcoholic women are being conducted to determine whether there are differences in levels of spousal violence that occur following the woman's alcohol and drug problems as opposed to levels of family violence that occur in the absence of any alcohol or drug problems for the women. Finally, additional studies are needed to explore anomalous effects of drugs on certain people. It may be that the usual reaction to a specific drug does not increase or decrease violent tendencies, but certain individuals behave very atypically.

INTERRELATIONSHIPS OF CHILD ABUSE AND ALCOHOL AND DRUG PROBLEMS

Review of the Literature

Few studies provide any information concerning connections between alcohol and drug abuse and the perpetration of child abuse. In a typology of child abusers, one cluster that comprised about 13 percent of the sample was defined by variables that included alcohol intoxication at the time of the abuse (Gil 1971). However, the importance of alcohol problems to the perpetration of child abuse is still not clear (Black and Mayer 1980; Herman and Hirschman 1981; Smith et al. 1973). In their review of the literature, Leonard and Jacob (1988) suggest that if the perpetrator's alcohol abuse is important to understanding child abuse, it is true for subgroups of abusers rather than a characteristic of most abusers. However, few

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methodologically sound research studies exist on the alcohol and drug abuse of the perpetrators of child abuse. More recently, there has been increased social and legal interest in the alcohol and drug use of the pregnant woman. Her substance use is perceived as a type of child abuse and neglect. However, less concern has been focused on the alcohol and drug problems of the chronic child abusers whose victims are children already born.

While there is less emphasis on the immediate interrelationships between alcohol and drug problems and the perpetration of child abuse, there has been increasing evidence that there are long-term effects of parental violence on the victim, including the development of alcohol and drug problems. Child abuse has been associated with the development of illicit drug abuse (Dembo et al. 1988; Dembo et al. 1987; Geller and Ford-Somma 1984), adult alcoholism (Holmes and Robins 1988), juvenile delinquency (Bolton and Reich 1977; Brown 1982), and adult criminality (Kroll et al. 1985; McCord 1983; Singer 1986). Retrospective accounts of childhood experiences have found that alcoholic and drug-abusing women were more likely to report both physical and emotional abuse during childhood than women who are neither alcoholics nor drug abusers (Covington 1983; Cohen and Densen-Gerber 1982).

In examining the mechanisms by which child abuse may lead to the development of alcohol and drug problems, negative emotional states that are introduced by the experiences of child abuse may be a critical intervening factor. Dembo and associates (1987; Dembo et al. 1988) report that physical and sexual abuse of juvenile delinquents lead to drug use via lowered self-esteem. Further, sexual and physical abuse predicted drug use among juvenile delinquents (Dembo et al. 1987; Dembo et al. 1988). Other studies have reported that negative feelings toward the self are related to experienced child abuse (Oates et al. 1985). Drinking for relief of generalized unpleasant feelings has been associated with problem drinking (Fillmore 1974; Fillmore 1975). Zucker and Devoe (1975) found that adolescent female problem drinkers described their parents as arbitrary in discipline and reported more distress than boys over parent–child problems. The presence of these feelings may result in problem drinking during adolescence and set the stage for alcoholism in adulthood.

Study I: Comparison Study of Alcoholic Women and General Population of Women

In the first study, the role of child abuse in the development of alcohol problems in women was explored by comparing experiences of moderate and severe violence for a sample of women alcoholics with experiences of a random sample of women in the community.

Methods. Methods for this study were described earlier. The CTS described earlier for spousal violence was employed for assessing parent-to-child relationships. Since parental alcohol problems could be a confounding

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variable in assessing the interrelationships between child abuse and the development of alcohol problems in women, we also obtained measures of parental alcohol problems. Parental alcohol problems were assessed by asking the women whether they thought either parent had a problem with alcohol. If they indicated that they did have a problem, they were asked to describe behaviors that led to that conclusion.

Effect of Parental Violence on Women's Alcohol Problems. Our alcoholic sample reported significantly different levels of father-to-daughter interaction than the random sample. Specifically, a lower level of father-to-daughter positive verbal interaction ($\bar{x}$=1.31 vs. 1.81, $p<.05$) and higher levels of negative verbal interactions ($\bar{x}$=2.86 vs. 1.46, $p<.01$), of moderate violence ($\bar{x}$=2.88 vs. 1.54, $p<.001$), and of serious violence ($\bar{x}$=1.21 vs. 0.32, $p<.01$) were reported by the alcoholic sample, compared to the random sample (Downs et al. 1987). None of the mother-to-daughter interaction subscales were significantly different across sample type, suggesting that the experiences of father-to-daughter violence were more important to the development of alcohol problems among women.

The interrelationships between child abuse by the father and the development of alcoholism were also examined while controlling for other variables of conceptual or statistical significance between the two groups: number of changes in family structure during childhood, parental alcohol problems, present income source, and present age. Multiple regression analyses revealed that higher levels of negative verbal interactions and higher levels of moderate and serious violence were all predictive of being in the alcoholic group (table 2). In the final analysis, the levels of father-to-daughter violence were as important to predicting group membership as were parental alcoholism and number of changes in family structure. This suggests that experiences of child abuse may be as important to the development of alcohol problems in women as is the parental alcoholism link that has received so much research and popular attention. The R^2, adjusted for sample size, was approximately .40 in each equation, indicating that the five independent variables were powerful in predicting membership in the alcoholic sample.

Study II: Parolee and Spouse Study

In the parolee study, the effect of parental alcohol abuse on child abuse experienced by the parolee was examined. In addition, the effect of the parolee's alcohol and drug problems and his spouse's alcohol and drug problems on their willingness to use physical violence with their own children was assessed.

Methods. The methods for this study were outlined previously. The same CTS was used to assess the parolees' experiences of father-to-parolee and mother-to-parolee violence during childhood. The entire sample of parolees was asked these questions and the analyses on these variables were completed for 179 subjects.

TABLE 2. *Multiple regression of type of sample on father-to-daughter conflict tactics subscales*

Independent Variables	B	Beta	p (1-tailed)
*Regression with Negative Verbal Interaction**			
Negative Verbal Interaction	.048	.20	.020
Changes in Family Structure	.062	.17	.033
Parental Alcoholism	.210	.21	.022
Present Income Source	.259	.23	.007
Present Age	.019	.34	.001
*Regression with Moderate Violence***			
Moderate Violence	.051	.19	.024
Changes in Family Structure	.061	.17	.036
Parental Alcoholism	.218	.22	.017
Present Income Source	.276	.25	.004
Present Age	.018	.33	.001
*Regression with Serious Violence****			
Serious Violence	.063	.17	.040
Changes in Family Structure	.056	.16	.051
Parental Alcoholism	.213	.21	.021
Present Income Source	.273	.24	.005
Present Age	.019	.35	.001

*Adjusted R^2 for equation=.40.
**Adjusted R^2 for equation=.39.
***Adjusted R^2 for equation=.39.

SOURCE: Miller et al. 1987, copyright 1987, Springer Publishing Co.

For reports on the parolees' and spouses' disciplinary styles toward their own children, analyses were completed only for the 42 couples (parolees and their spouses) who were currently living with their children. Twenty-one different hypothetical situations of a child's misbehavior were posed, and parents were asked how they might discipline their children. A target child (oldest child between 5 and 14 years of age) was used with each parolee and spouse. This assessment of parental punishment styles was a revised version of the parental punitiveness scale (Epstein and Komorita 1965). Thus, the scale does not provide an assessment of actual parental abuse but the willingness to endorse punishment styles that reflect severe violence. Two measures from this scale were important to these analyses.

The first measure assessed willingness to use severe physical punishment, specifically: "spank with belt or switch" and "hit with fist." Across the 21 items, counts were made of the number of times the subject indicated he or she would use either of these two severe punishments. This normative acceptance of severe physical punishment was viewed as a risk factor in violence toward children. The second measure examined for these analyses was the number of times the parent expressed the willingness to do nothing for the 21 hypothetical situations. The more an individual endorsed this response across behavior patterns, the more suggestive that the parent was uninvolved in providing any discipline for the child.

Effect of Perpetrator's Alcohol and Drug Problems on Child Abuse. First, the interrelationships between parental alcohol abuse and child abuse directed towards the parolee were examined. Since less than 10 percent of the parolees reported parents with drug abuse problems, it was impossible to analyze the effect of drug abuse on child abuse experiences of the parolees.

Alcohol problems in the father significantly increased the father-to-parolee violence, accounting for an approximate increase in the explained variance of 9 percent (table 3). Alcohol problems in the mother contributed a small but statistically significant proportion of the total variance explained (less than 4 percent) in mother-to-parolee violence (table 4). This result is similar to the effect found for the father-to-parolee violence: the more alcohol problems the mother had, the more violence she directed towards the parolee.

TABLE 3. *Results from regression analysis of parental alcohol problems on father-to-parolee violence*

Variable	Multiple R	Increment R^2	Entry Beta Weight**
Demographics	.1352	.0183	
Age			.032
Race			.135
Parental Alcohol Problems	.3295	.0903*	
Mother		.0001	−.008
Father		.0890*	.307*

*p<.005.
**Entry Beta weight is the standardized regression coefficient representing the contribution of the variable at time of entry into equation.

NOTE: Overall equation: R=.3295; R^2=.1086; adjusted R^2=.0856; F(4,155)=4.72, p<.005.

The effect of parolees' and spouses' alcohol and drug problems on their willingness to use disciplinary measures that involved physical violence

TABLE 4. *Results from regression analysis of parental alcohol problems on mother-to-parolee violence*

Variable	Multiple R	Increment R^2	Entry Beta Weight
Demographics	.0395	.0016	
Age			.000
Race			-.039
Parental Alcohol Problems	.2425	.0572*	
Mother		.0355*	.192*
Father		.0140	.122

*p<.05.

NOTE: Comprehensive equation: R=.2425; R^2=.0588; adjusted R^2=.0345; F(4,155)=2.42, p<.06.

was assessed. These relationships were examined with hierarchical regression analyses. However, given the relatively few subjects available for these analyses (n=42), variables were discarded from the analysis at the point of entry if they did not significantly relate to the criterion variable. Sociodemographic factors were initially entered into the regression equation. Subsequently, a composite measure of parolee-to-spouse and spouse-to-parolee violence was entered.[6] Given the relationships found for the violence between the parolee's parents and the violence toward the parolee, the expectations were that high rates of violence between the couple would be related to more severe methods of punishment toward the child. Following the spousal violence index, the criminal violence measures were entered. Again, one might expect that high rates of violence in the criminal area might lead to greater violence being displayed toward the child. Following criminal violence, lifetime alcohol problems and drug abuse measures were entered. Current measures of alcohol and drug abuse problems for the spouse were unfortunately unavailable. However, separate analyses conducted for the parolees' lifetime and current alcohol and drug problems showed no differences in patterns for the relationships being tested. Finally, the parental factors were entered.

The potential for severe punishment from the parolee and from the spouse were moderately related (r=.293, p<.04). While this relationship indicates some agreement with regard to the acceptance of serious physical punishment between the parents, it also indicates that the level of agreement was not particularly high and that the punitive styles of the parents were, to some degree, independent.

The demographic factors contributed significantly to the variance in severe parolee punitiveness. This was due mainly to race and age. Black parolees

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were more likely than white or other parolees to endorse the use of severe punishment on children living in their home. Likewise, the potential for use of severe punishment by the younger parolees was greater than it was for the older parolees. The demographics accounted for 12 percent of the variance in parolee punitiveness after adjusting for shrinkage. Spousal violence, criminal violence, alcohol and drug abuse, as well as current parent-to-parent and retrospective parent-to-child violence did not contribute to the prediction of parolee-to-child punitiveness.

In contrast, spouses' drug abuse was related to the potential use of severe spouse-to-child punishment, accounting for almost 8 percent increase in R^2 (table 5). However, the direction of the relationship is opposite of what might be expected. Spouses that abused drugs were less willing to endorse severe punishment than those spouses that did not abuse drugs. Race again significantly contributed to the R^2, with the potential of blacks using severe punishment across more situations being greater than that for whites or others. The resulting comprehensive equation accounted for 28 percent of the variance. One interaction that was close to significance (p=.06) was spouse's violent criminal history by spouse's alcohol problems. Although alcohol problems tended to decrease the willingness to endorse severe physical punishment regardless of criminal history for violent offenses, spouses with a criminal history and alcohol problems showed the lowest rates of endorsement for severe physical punishment.

TABLE 5. *Regression analysis for spouse severe punishment*

Variable	Multiple R	Increment in R^2	Entry Beta Weight
Demographics	.5228	.2733*	
Age of Spouse			-.2522
Race			-.4166*
Socioeconomic Status			.0701
Spouse			
Drug Abuse	.5923	.0775**	-.3335**

*p<.01.
**p<.05.

NOTE: Comprehensive equation: Multiple R=.5923; R^2=.3508; adjusted R^2=.2806; F(4,37)=4.99, p<.005.

To better understand these interrelationships, a second measure of parental willingness to endorse no parental reaction was analyzed. Although the women's (spouses') willingness to endorse physical violence toward their

children was inversely related to their alcohol and drug problems, the women's willingness to endorse a "do nothing" response to various child misbehavior was positively related to high levels of alcohol and drug problems. Women who had higher levels of both alcohol and drug problems reported the greatest number of situations in which they would do nothing in response to a child's misbehavior. While this is only one measure of neglecting to perform parental duties, the data suggest that for women in our study, alcohol and drug problems were more closely linked to their failure to perform parental duties than to their willingness to endorse severe violence as appropriate parental punishment.

Summary

Based upon the two studies presented, experiences of child abuse are related to the development of alcohol problems. For our sample of female alcoholics, only the father-to-daughter violence was significant. However, the parolee sample revealed that both mother- and father-to-parolee violence was important.

Our data on the importance of parental alcohol and drug problems to the willingness to use parental violence toward children was less clear. Based on hypothetical punishment responses to a set of child misbehaviors, there did not appear to be a positive relationship between parental alcohol and drug problems and the willingness to use parental violence. In fact, there was some evidence that women who abused alcohol and drugs were less likely to endorse severe violence as a form of parental discipline. These findings should be viewed with caution, however. Attempts to assess the current levels of violence to their children for the parolee sample was hampered by the small numbers of parolees living with children (n=42). Further, the measure of child abuse was considerably different in that responses to hypothetical situations were measured. There was no attempt to assess actual behaviors that had occurred. Measures for lifetime alcohol and drug problems were used rather than current alcohol and drug problems. Because of interview time constraints, only parolees were asked about current drug and alcohol problems. Although no differences were noted in the relationships between current alcohol and drug problems and punishment styles vs. the relationships between lifetime alcohol and drug problems and punishment styles for the parolees, there may have been differences in punishment styles for current vs. lifetime drug problems for women. Still another complication is that many of the parolees were living with children who were not their own. Finally, the small number of female drug abusers suggests the importance of replicating these findings.

Further research is needed to assess the relationship of drug abuse to child abuse. Current media attention has been given to the growing numbers of legal cases that are arising from mothers who use drugs while pregnant.

Although this is an important concern, additional research is needed on the effect of drug abuse on parental care after the children are born. Given the findings that parental alcohol abuse increased the level of violence to children and that child abuse is related to the development of alcohol problems, this same intergenerational phenomenon needs to be explored further for drug abuse.

INTERRELATIONSHIPS OF CHILDHOOD SEXUAL ABUSE AND ALCOHOL AND DRUG PROBLEMS

Review of the Literature

Relatively little information exists to support the notion that perpetrators of childhood sexual abuse are alcohol or drug abusers. A few studies have investigated incestuous fathers and found that a proportion (ranging from 20 to 50 percent) are alcoholic or heavy drinkers (Gebhard et al. 1965; Meiselman 1978; Virkkunen 1974). However, studies of other perpetrators and their alcohol and drug problems are rare.

Considerably more information exists to suggest that experiences of childhood sexual abuse lead to alcohol and drug abuse for the victims. There are a wide range of undesirable effects from experiences of childhood sexual abuse; the development of alcohol and drug problems has been identified as a possible consequence (Browne and Finkelhor 1986; Herman 1981; Rohsenow et al. 1986). As mentioned previously, Dembo and associates (1988) found that sexual abuse predicted drug use among juvenile delinquents. Briere and Runtz (1988) reported that prior sexual abuse was associated with greater likelihood of drug and alcohol abuse, as well as various other negative, psychological outcomes. Singer et al. (1989) compared psychiatric patients with and without sexual abuse histories and found that abused subjects used alcohol and drugs more and reported more drunkenness than those without an abuse history. An exception to this pattern was a study by Goldston et al. (1989), which compared sexually abused and nonabused girls in psychiatric facilities and found no differences in alcohol abuse and more drug abuse among nonabused girls.

Although the literature on alcohol and drug problems of women does not address the mechanisms that may link childhood sexual abuse to the development of these problems, the antecedents to alcohol and drug problems are similar to consequences of childhood sexual abuse. In her longitudinal study of alcoholic women, Jones (1971) reports that social isolation and emotional disturbances were more characteristic of adolescents who later developed alcohol problems than of adolescents who did not. There are indications that emotional disturbances and social isolation are consequences of sexual abuse experiences (Browne and Finkelhor 1986). Distorted self-image and low self-esteem have been found among some women alcoholics (Kinsey 1968; Wood and Duffy 1966). Likewise, initial and long-term

effects of childhood sexual abuse include negative emotional reactions and negative self-perceptions (Browne and Finkelhor 1986).

Theoretical explanations for why experiences of childhood sexual abuse could lead to alcohol and drug problems have not been well developed. Sexual abuse events that involve violent coercion may lead to extremely unpleasant memories that a woman wants to repress. Heavy drinking and drug abuse may offer a chemically induced mechanism for forgetting. Both alcoholic and drug-abusing women have reported using for escapist reasons (Beckman 1980; Miller 1980).

Another mechanism by which sexual abuse events may lead to drug and alcohol abuse is that experiences of sexual abuse have been suggested to lead to negative self-concept and self-imaging (Browne and Finkelhor 1986). These negative emotions toward self may lead to depression and anxiety. Numerous studies have found evidence of depression in alcoholic women (Schuckit 1973; Schuckit et al. 1969). Further, relief of unpleasant feelings has been cited as a reason for drinking among female problem drinkers (Edwards et al. 1973; Fillmore 1974; Fillmore 1975; Beckman 1980; Lisansky-Gomberg and Lisansky 1984). In cases in which depression and anxiety begin in childhood following sexual abuse, the development of patterns of drinking may be established as a means to cope with these feelings.

Still another link between childhood sexual abuse and the development of alcohol and drug problems is that some children report feeling different from other children as a result of their sexual abuse experiences (Herman 1981). This may lead childhood sexual abuse victims to seek identity and membership in groups of adolescents who are more deviant and for whom drug and alcohol use is viewed as more normative. Early patterns of heavy drinking and drug use can then lead to alcohol and drug-related problems.

Comparison Study of Alcoholic Women and General Population of Women

Data on childhood sexual abuse experiences were available only for the first study, comparing alcoholic women and a random sample of women. The focus was on the question of whether experiences of childhood sexual abuse are related to the development of women's alcohol problems.

Methods. Issues regarding sampling and measurement of relevant variables were presented earlier except for the measurement of childhood sexual abuse. Previous research has shown that multiple questions of a specific nature produce more reports of sexual abuse than single, more general questions (Peters et al. 1986). Therefore, our questions on sexual abuse were generated from the list of sexual abuse questions created by Finkelhor (1979) and supplemented with questions developed by Sgroi (1982). Sexual abuse was defined as both contact and noncontact experiences that occurred

prior to the age of 18. These questions included a range of interactions between an adult and a child. Specific sexual experiences included invitations to do something sexual, sexually oriented touching, masturbation, oral sex, digital penetration, and intercourse. Sexual experiences with peers (persons who were less than 5 years older) or boyfriends who were not coercive or threatening were excluded.

Effect of Childhood Sexual Abuse on Women's Alcohol Problems. Women in the alcoholic sample (67 percent) were significantly ($p<.001$) more likely to have experienced sexual abuse, compared to the women in the comparison group (28 percent) (Miller et al. 1987). The total number of types of sexual abuse experiences reported by the alcoholic women were significantly greater ($\bar{x}=4.4$ vs. 0.9, $p<.001$) than for the comparison group. Finally, for women with sexual abuse experiences, alcoholic women reported the sexual abuse lasting significantly longer than the comparison group ($p=.02$); the alcoholic women reported an average of more than 3 years as compared to slightly less than 1 year for the comparison group. Nearly two-thirds of the alcoholic women had sexual abuse incidents lasting 1 or more years as compared to approximately one-fourth of the comparison group.

To examine the relative contribution of childhood sexual abuse and parental alcohol-related problems to predicting the development of alcoholism in women, a discriminant function analysis was performed to determine the effect of any sexual abuse experience in predicting membership in the alcoholic group. Given the disproportionate presence of a parent with alcohol-related problems among alcoholic women, we controlled for the effects of parental alcohol problems by entering this as an independent variable. Other demographic variables that were significantly different between samples were entered as independent variables: current age, number of changes in the family, and current source of income.

The presence of any sexual abuse experience significantly contributed to the discrimination between groups (table 6), even when the presence of a parent with alcohol-related problems, present income source, and current age were in the equation. The standardized canonical discriminant function coefficients provide a measure of the relative contribution of each variable in the discriminant function. Sexual abuse made nearly as strong a contribution to the discriminant function score as did presence of a parent with an alcohol-related problem. This suggests that both childhood sexual abuse and parental alcoholism are predictors of alcoholism in women.

Summary

Our study of alcoholic women and the general population sample of women indicate that childhood sexual abuse is related to the development of alcohol problems in women. Sexual abuse was found to discriminate as powerfully

TABLE 6. *Discriminant function analysis: Prediction of group by age, income, parental alcoholism, sexual abuse*

	Standardized Canonical Discriminant Function Coefficients	Significance of F
Current Age	.53	.0014
Present Income Source	.51	.0022
Parental Alcohol-Related Problems	.47	.0073
Sexual Abuse	.40	.0217

NOTE: Canonical correlation=.67; Wilks' λ=.56; χ^2=46.5. Standardized canonical discrimination function coefficients are interpreted similarly to Beta weights.

SOURCE: Miller et al. 1987, copyright 1987, Springer Publishing Co.

between the two groups as did alcohol-related problems of parents. Alcohol abuse and sexual abuse are interrelated, and the intergenerational aspects of these phenomena cannot be ignored. Parental alcoholism may set the stage for sexual abuse through both environmental and psychological vulnerabilities, while, at the same time, women with sexual abuse experiences appear to be more at risk for the development of alcohol problems. This then sets the stage for the sexual abuse experiences of their own children (a third generation). Further analyses are under way to determine how the experiences of sexual abuse set the stage for the development of alcohol problems and to shape future research about relationships between childhood sexual abuse and the development of drug abuse problems in women.

CONCLUSION

Relationships between family violence and alcohol and drug problems of the perpetrator and the victim have not been the focus of much research in the past. The two different studies discussed in this presentation initiate investigations into the complexities of these relationships, and there is some replication of findings. Both studies found that experiences of child abuse are related to the development of alcohol problems. Both studies also found that experiences of spousal violence are linked to alcohol problems. One study reported findings that further substantiate the connections between family violence and alcohol and drug problems of perpetrators. Evidence that childhood sexual abuse is related to the development of alcohol problems in women was demonstrated in one study.

The studies presented here represent beginning steps toward understanding the relationships between family violence and alcohol and drug abuse problems. Information is still needed on how and why alcohol and drug

problems of perpetrators are related to the perpetration of family violence and how and why victimization experiences can lead to the development of alcohol and drug problems. Further study is needed to address whether the experiences of family violence leading to drug and alcohol abuse are uniquely different from experiences of family violence that lead to other types of dysfunctional behavior. In addition, there is a need to understand how some individuals are able to survive experiences of family violence without the development of personal dysfunctions such as alcohol and drug abuse.

Investigation of these relationships between family violence and drug and alcohol problems are important to the development of public policies that address the constellation of problems that many individuals face. Intervention services for women in alcohol and drug treatment programs could be developed to incorporate approaches appropriate for victims of violence. Existing community resources devoted to victims need to understand the complex relationships family violence has with alcohol and drug problems. For identified victims of family violence, programs and strategies might be developed for these high-risk individuals for drug and alcohol abuse prevention programs. Research that addresses these issues can provide a focus to bring together services that currently exist in separate spheres and encourage communication on problems that coexist within an individual and their family.

FOOTNOTES

1. Severe violence is defined by the following acts directed toward an individual in the family: kicking, biting, punching, hitting or trying to hit with object, beating, threatening with a gun or knife, and using a gun or knife. Moderate violence is defined by the following acts directed toward an individual in the family: threatened to hit or throw something; threw, smashed, hit, or kicked something; threw something at individual; pushed, grabbed, shoved, or slapped.

2. Definitions of childhood sexual abuse vary from study to study. Virtually all studies have some definition of who is defined as a perpetrator with family member or an individual who is older than the victim by a specified number of years being typically used to clarify this concept. A list of sexual behaviors that the victim either did or was done to the victim are typically given. Some studies limit the age range of the victim, e.g., acts that occurred prior to 14 years of age. In part, this age limitation is established to try to eliminate consensual boyfriend–girlfriend relationships that may characterize the teenage years. Finkelhor (1984; Finkelhor 1986) further clarify the definitions of childhood sexual abuse.

3. We defined violent offenses to include crimes such as murder, manslaughter, robbery, arson, assault, rape, sodomy, sexual abuse, and sexual assault. We defined nonviolent offenses to include crimes such as burglary, grand larceny, petit larceny, forgery, car theft, and criminal possession of stolen property. Some individuals' most recent crime did not clearly fit within the violent or nonviolent categories (youthful offender, driving while intoxicated, reckless endangerment, possession of a weapon with no other associated offenses, possession or sale of illegal drugs), and these individuals were excluded from our sample. From a total sample of 526 parolees defined as eligible for the study, 196 participated in the study. An additional 195 individuals who were eligible were unavailable for one of the following reasons: completed parole prior to contact by research staff, in jail, absconded, did not have an address or phone number, and were missed at parole office. A total of 1,356 parolees refused to participate by not appearing for appointment or never responding to our letters or phone calls. Blane et al. (1988) provide further information on the sampling design.

4. This variable provided interval data, increasing our power for detecting differences, compared to a categorical variable on alcohol diagnosis that was also available.

5. The present study used an updated version of the spouse form of the CTS. A description of this updated version can be found in Kantor and Straus (1989) and differs from the original spouse form of the CTS (Straus et al. 1980) by the addition of "choked." We added "burned or scalded" to our spouse form, an item that Gelles and Straus (1985) have recently added to their parent-to-child form only. In addition, we added three items to our spouse form, independent of Straus et al. (1980) revisions. These items were: threatened to abandon you, threatened your life in some manner, and forced sex.

6. This composite index was derived in the following way. If one of the scales had 1 or 2 incidents indicated and the other had none, the index score was a 1. If both scales had 1 or 2 incidents indicated, the index score was a 2, and if one scale indicated no violent incidents and the other indicated 3 or more, the score was also a 2. If one scale indicated 1 or 2 incidents and the other indicated more than 2, the score was a 3. Finally, if both scales indicated more than 2 incidents, the score was a 4.

REFERENCES

Beckman, L.J. Perceived antecedents and effects of alcohol consumption in women. *J Stud Alcohol* 41(5):518-530, 1980.

Black, R., and Mayer, J. Parents with special problems: Alcoholism and opiate addiction. *Child Abuse Negl* 4:45-54, 1980.

Blane, H.T.; Miller, B.A.; Leonard, K.E.; Nochajski, T.H.; Bowers, P.M.; and Gondoli, D. *Intra- and Inter-Generational Aspects of Serious Domestic Violence and Alcohol and Drugs.* (National Institute of Justice grant number 86-IJ-CX-0035). Final report submitted to the National Institute of Justice, December 1988.

Bolton, F.G., and Reich, J.W. Delinquency patterns in maltreated children and siblings. *Victimology* 2(2):349-357, 1977.

Briere, J., and Runtz, M. Symptomatology associated with childhood sexual victimization in a nonclinical adult sample. *Child Abuse Negl* 12:51-59, 1988.

Brown, S.E. An analysis of the relationship between child abuse and delinquency. *Crime and Justice* 5:47-51, 1982.

Browne, A., and Finkelhor, D. Impact of child sexual abuse: A review of the research. *Psychol Bull* 99(1):66-77, 1986.

Bureau of Justice Statistics, U.S. Department of Justice. *Survey of Inmates of State Correctional Facilities, 1979* [Machine-readable data file]. Washington, DC: U.S. Bureau of Census (producer). 2d ed. Ann Arbor, MI: Inter-University Consortium for Political and Social Research (distributor), 1981.

Byles, J.A. Violence, alcohol problems and other problems in disintegrating families. *J Stud Alcohol* 39:551-553, 1978.

Chimbos, P.D. *Marital Violence: A Study of Interspousal Homicide.* San Francisco: R & E Research Associates, 1978.

Cohen, F.S., and Densen-Gerber, J. A study of the relationship between child abuse and drug addiction in 178 patients: Preliminary results. *Child Abuse Negl* 6:383-387, 1982.

Coleman, D.H., and Straus, M.A. Alcohol abuse and family violence. Presented at the annual meeting of the American Sociological Association, Boston, 1979.

Coleman, D.H., and Straus, M.A. Alcohol abuse and family violence. In: Gottheil, E.; Druley, K.A.; Skoloda, T.E.; and Waxman, H.M., eds. *Alcohol, Drug Abuse and Aggression.* Springfield, IL: Charles C. Thomas, 1983. pp. 104-124.

Collins, J.J. Drugs and violence: The relationship of selected psychoactive substance use to assault and robbery. Presented at annual meeting of the American Society of Criminology, November 1982.

Covington, S.S. Sexual experience, dysfunction, and abuse: A descriptive study of alcoholic and nonalcoholic women. Dissertation, The Union for Experimenting Colleges and Universities, Cincinnati, OH, 1983.

Dembo, R.; Dertke, M.; Border, S.; Washburn, M.; and Schmeidler, J. The relationship between physical and sexual abuse and tobacco, alcohol, and illicit drug use among youths in a juvenile detention center. *Int J Addict* 23:351-378, 1988.

Dembo, R.; Dertke, M.; LaVoie, L.; Borders, S.; Washburn, M.; and Schmeidler, J. Physical abuse, sexual victimization and illicit drug use: A structural analysis among high risk adolescents. *J Adolesc* 10:13-33, 1987.

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Downs, W.R.; Miller, B.A.; and Gondoli, D.M. Childhood experiences of parental physical violence for alcoholic women as compared with a randomly selected household sample. *Violence and Victims* 2(4):225-240, 1987.

Eberle, P.A. Alcohol abusers and nonusers: A discriminant analysis of differences between two subgroups of batterers. *J Health Soc Behav* 23:260-271, 1982.

Edwards, G.; Hensman, C.; and Peto, J. A comparison of male and female motivation for drinking. *Int J Addict* 8:577-587, 1973.

Epstein, R., and Komorita, S.S. The development of a scale of parental punitiveness toward aggression. *Child Dev* 36:129-142, 1965.

Fagan, J.A.; Stewart, D.K.; and Hansen, K.V. Violent men or violent husbands? In: Finkelhor, D.; Gelles, R.J.; Hotaling, G.T.; and Straus, M.A., eds. *The Dark Side of Families.* Beverly Hills, CA: Sage Publications, 1983. pp. 49-67.

Fagan, J., and Wexler, S. Complex behaviors and simple measures: Understanding violence in families. Presented at the annual meeting of the American Society of Criminology. San Diego, CA, November 1985.

Fillmore, K.M. Drinking and problem drinking in early adulthood and middle age. *Q J Stud Alcohol* 35:819-840, 1974.

Fillmore, K.M. Relationships between specific drinking problems in early adulthood and middle age. *J Stud Alcohol* 36:882-907, 1975.

Finkelhor, D. *Sexually Victimized Children.* New York: The Free Press, 1979.

Finkelhor, D. *Child Sexual Abuse: New Theory and Research.* New York: Free Press, 1984.

Finkelhor, D. *A Sourcebook on Child Sexual Abuse.* Beverly Hills, CA: Sage, 1986.

Fox, J.; Miller, B.A.; and Bullington, B. *A Study of Drug and Alcohol Abuse Problems in Pennsylvania's Criminal Justice System. Vol. II. Development of Early Identification Technique. Final Report.* Submitted to the Pennsylvania Department of Justice, Bureau of Corrections, in conjunction with the Board of Probation and Parole and the Governor's Council on Drug and Alcohol Abuse, December 1977.

Frieze, I.H., and Knoble, J. The effects of alcohol on marital violence. Presented at the annual convention of the American Psychological Association, Montreal, Canada, September 1980.

Gayford, J.J. Wife battering: A preliminary survey of 100 cases. *Br Med J* 1:194-197, 1975.

Gebhard, P.H.; Gagnon, J.; Pomeroy, W.; and Christenson, C. *Sex Offenders: An Analysis of Types.* New York: Harper and Row, 1965.

Geller, M., and Ford-Somma, L. *Violent Homes, Violent Children: A Study of Violence in the Families of Juvenile Offenders.* New Jersey: Department of Corrections, Division of Juvenile Services, 1984.

Gelles, R.J. *The Violent Home: A Study of Physical Aggression Between Husbands and Wives.* Beverly Hills, CA: Sage Publications, 1972.

Gelles, R.J., and Straus, M.A. Is violence towards children increasing? A comparison of 1975 and 1985 National Survey rates. Presented at the Seventh National Conference on Child Abuse and Neglect, Chicago, IL, November 1985.

Gerson, L.W. Alcohol-related acts of violence: Who was drinking and where the acts occurred. *J Stud Alcohol* 39(7):1294-1296, 1978.

Gil, D. Violence against children. *J Marriage Family* 33:637-698, 1971.

Goldstein, P.J. *Prostitution and Drugs.* Lexington, MA: Lexington Books, D.C. Heath and Company, 1979.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 15(4):493-506, 1985.

Goldstein, P.J.; Bellucci, M.A.; Spunt, B.J.; and Miller, T. Frequency of cocaine use and violence: A comparison between men and women. Manuscript submitted for presentation at the National Institute for Drug Abuse Meeting on "The Epidemiology of Cocaine Use and Abuse," May 1988.

Goldston, D.B.; Turnquist, D.C.; and Knutson, J.F. Presenting problems of sexually abused girls receiving psychiatric services. *J Abnorm Psychol* 98(3):314-317, 1989.

Herman, J. *Father–Daughter Incest.* Cambridge: Harvard University Press, 1981.

Herman, J., and Hirschman, L. Families at risk for father–daughter incest. *Am J Psychiatry* 138:967-970, 1981.

Hilberman, E., and Munson, K. Sixty battered women. *Victimology* 2:460-471, 1978.

Holmes, S.J., and Robins, L.N. The role of parental disciplinary practices in the development of depression and alcoholism. *Psychiatry* 51:24-36, 1988.

Jones, M.C. Personality correlates and antecedents of drinking patterns in women. *J Consult Clin Psychol* 36:61-69, 1971.

Kagle, J.D. Women who drink: Changing images, changing realities. *J Soc Work Educ* Fall (3):21-28, 1987.

Kantor, G.K., and Straus, M.A. Substance abuse as a precipitant of family violence victimization. *Am J Drug Alcohol Abuse* 15(2):173-189, 1989.

Kinsey, B.A. Psychological factors in alcoholic women from a state hospital sample. *Am J Psychiatry* 124:1463-1466, 1968.

Kroll, P.D.; Stock, D.F.; and James, M.E. The behavior of adult alcoholic men abused as children. *J Nerv Ment Dis* 173:689-693, 1985.

Leonard, K.E.; Bromet, E.J.; Parkinson, D.K.; Day, N.L.; and Ryan, C.M. Patterns of alcohol use and physically aggressive behavior. *J Stud Alcohol* 46:279-282, 1985.

Leonard, K.E., and Jacob, T. Alcohol, alcoholism, and family violence. In: Van Hasselt, V.B.; Morrison, R.L.; Bellack, A.S.; and Hersen, J., eds. *Handbook of Family Violence.* New York: Plenum Press, 1988. pp. 383-406.

Lisansky-Gomberg, E.S., and Lisansky, J.M. Antecedents of alcohol problems in women. In: Wilsnack, S.C., and Beckman, L.J., eds. *Alcohol Problems in Women: Antecedents, Consequences, and Intervention.* New York: Guilford Press, 1984. pp. 233-259.

McCord, J. A forty-year perspective on effects of child abuse and neglect. *Child Abuse Negl* 7:265-270, 1983.

Meiselman, K.C. *Incest: A Psychological Study of Causes and Effects with Treatment Recommendations.* San Francisco: Jossey-Bass, 1978.

Miller, B.A. Illegal drug use among women in detention. Unpublished doctoral dissertation, State University of New York, Albany, 1980.

Miller, B.A.; Downs, W.R.; and Gondoli, D.M. Spousal violence among alcoholic women as compared to a random household sample of women. *J Stud Alcohol* 50(6):533-540, 1989.

Miller, B.A.; Downs, W.R.; Gondoli, D.M.; and Keil, A.V. Childhood sexual abuse incidents for alcoholic women versus a random household sample. *Violence and Victims* 2(3):157-172, 1987.

Miller, B.A.; Nochajski, T.H.; Leonard, K.E.; Blane, H.T.; Gondoli, D.M.; and Bowers, P.M. Spousal violence and alcohol/drug problems among parolees and their spouses. *Women Crim Justice* 1(2):55-72, 1990.

Nisonoff, L., and Bitman, I. Spouse abuse. *Victimology* 4:131-140, 1979.

Oates, R.K.; Forrest, D.; and Peacock, A. Self-esteem of abused children. *Child Abuse Negl* 9:159-163, 1985.

Pernanen, K. Experiences of violence and their association with alcohol use in the general population of a community. Presented at the annual meeting of the American Society of Criminology, Philadelphia, PA, 1979.

Peters, S.D.; Wyatt, G.E.; and Finkelhor, D. Prevalence. In: Finkelhor, D., ed. *A Sourcebook on Child Sexual Abuse.* Beverly Hills, CA: Sage Publications, 1986. pp. 15-59.

Robins, L.N.; Helzer, J.E.; Croughan, J.; and Ratcliff, K.S. National Institute of Mental Health diagnostic interview schedule. *Arch Gen Psychiatry* 38:381-389, 1981.

Rohsenow, D.J.; Corbett, R.; and Devine, D. Molested as children: The hidden contribution to alcohol and substance abuse. Presented at the annual meeting of the American Medical Society of Alcohol and Other Drug Dependence, San Francisco, CA, April 1986.

Rosenbaum, M. *Women on Heroin.* New Brunswick, NJ: Rutgers University Press, 1981.

Roy, M. Four thousand partners in violence: A trend analysis. In: Roy, M., ed. *The Abusive Partner: An Analysis of Domestic Battering.* New York: Van Nostrand Reinhold, 1982. pp. 17-35.

Russell, D.E.H. The incidence and prevalence of intrafamilial and extrafamilial sexual abuse of female children. *Child Abuse Negl* 7:133-146, 1983.

Sandmaier, M. *The Invisible Alcoholics: Women and Alcohol Abuse in America.* New York: McGraw-Hill, 1980.

Schuckit, M.A. Depression and alcoholism in women. *Proceedings of the First Annual Alcoholism Conference of the National Institute on Alcohol Abuse and Alcoholism*, 1973. pp. 355-363.

Schuckit, M.; Pitts, F.N.; Reich, T.; King, L.J.; and Winokur, G. Alcoholism I: Two types of alcoholism in women. *Arch Gen Psychiatry* 20:301-306, 1969.

Selzer, M.L. The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. *Am J Psychiatry* 127(12):1653-1658, 1971.

Singer, M.I.; Petchers, M.K.; and Hussey, D. The relationship between sexual abuse and substance abuse among psychiatrically hospitalized adolescents. *Child Abuse Negl: Int J* 13:319-325, 1989.

Singer, S.I. Victims of serious violence and their criminal behavior: Subcultural theory and beyond. *Violence and Victims* 1:61-70, 1986.

Sgroi, S.M. *Handbook of Clinical Intervention in Child Sexual Abuse.* Lexington, MA: D.C. Heath and Company, 1982.

Smith, S.M.; Hanson, R.; and Noble, S. Parents of battered babies: A controlled study. *Br Med J* 4:388-391, 1973.

Straus, M.A. Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family* 41:75-86, 1979.

Straus, M.A., and Gelles, R.J. Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys. *Journal of Marriage and the Family* 48:465-479, 1986.

Straus, M.A., and Gelles, R.J. *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families.* New Brunswick, NJ: Transaction Publishers, 1990.

Straus, M.A.; Gelles, R.J.; and Steinmetz, S.K. *Behind Closed Doors: Violence in the American Family.* Garden City, NJ: Anchor Books, 1980.

Timnick, L. The Times Poll—22% in survey were child abuse victims. *The Los Angeles Times,* August 25, 1985. pp. 1, 34.

Tinklenberg, J.; Murphy, P.; Darley, C.; Roth, W.; and Kopell, B. Drug involvement in criminal assaults by adolescents. *Arch Gen Psychiatry* 30:685-689, 1974.

Tinklenberg, J.; Murphy, P.; Murphy, P.L.; and Pfefferbaum, A. Drugs and criminal assaults by adolescents: A replication study. *J Psychoactive Drugs* 13(3):277-287, 1981.

Tinklenberg, J.; Roth, W.; Kopell, B.; and Murphy, P. Cannabis and alcohol effects on assaultiveness in adolescent delinquents. *Ann NY Acad Sci* 282:85-94, 1976.

Van Hasselt, V.B.; Morrison, R.L.; and Bellack, A.S. Alcohol use in wife abusers and their spouses. *Addict Behav* 10:127-135, 1985.

Virkkunen, M. Incest offenses and alcoholism. *Med Sci Law* 14(2):124-128, 1974.

Walker, L.E. The battered woman syndrome study. In: Finkelhor, D.; Gelles, R.J.; Hotaling, G.T.; and Straus, M.A., eds. *The Dark Side of Families: Current Family Violence Research.* Beverly Hills, CA: Sage Publications, 1983. pp. 31-48.

Wood, H., and Duffy, E. Psychological factors in alcoholic women. *Am J Psychiatry* 123(3):341-345, 1966.

Wyatt, G.E. The sexual abuse of afro-american and white-american women in childhood. *Child Abuse Negl* 9:507-519, 1985.

Zucker, R.A., and Devoe, C.I. Life history characteristics associated with problem drinking and antisocial behavior in adolescent girls: A comparison with male findings. In: Wirt, R.D.; Winokur, G.; and Roff, M., eds. *Life History Research in Psychopathology (4)*. Minneapolis, MN: University of Minnesota Press, 1975.

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Drug-Related Violence and Street Prostitution

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INTRODUCTION

Prostitution and drug use are part of everyday life in our society despite public health and education efforts to reduce these high-risk behaviors. Prostitution is defined as providing sexual services in return for material gain such as money or drugs. While women as well as men can work as prostitutes, male hustlers are not as common. One of the primary differences between female and male prostitutes is that, in the case of male hustlers, the prostitutes and their customers are normally of the same sex, whereas the clients of female prostitutes are typically of the opposite sex. Consequently, hustlers exist in two subcultures in our society as both homosexuals and prostitutes.

Although prostitutes deliver similar services, they are accorded differential status depending on their work situations. Call girls or boys hold a higher status than those prostitutes associated with a brothel, who in return command more respect than those working in "cheap" hotels or motels or in the street (Greenwald 1958; Gagnon 1977; Miller 1986). This chapter will focus on prostitutes who recruit their customers in a public setting, mainly on "strolls," which are streets known for continuing prostitution activities. This type of prostitution is referred to as street prostitution. Those working as street prostitutes are in a more vulnerable position than their higher status counterparts due to the less protected circumstances in which they operate. Call girls or boys normally meet their customers in hotel rooms, which provide a semicontrolled environment ideal for customers who require discretion. Most escort services request that their employees—for their own and their employees' protection—notify the agency as soon as they enter or leave a hotel room (Foltz 1979). The prostitutes are required to make an additional call if they extend their stay. Brothels normally employ a "bouncer," and the rooms are often equipped with alarm systems; consequently, brothel prostitutes work in the most protected situation (Prus and Irini 1980). While these prostitutes operate in an environment in which

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rules exist on condoned sexual acts and their prices, street prostitutes work in ambiguous conditions in which negotiation determines the type of sex act, its price, and the location (Luckenbill 1984).

The nature and extent of violence that street prostitutes encounter are matters of increasing concern to those men and women working in commercial sex. This violence is frequently related to drug-use activities on and near strolls and also increasingly affects residents of these areas and passers-by. Drug use among the prostitutes in this study refers to the intravenous (IV) or non-IV use of heroin, cocaine, or both. Although the majority of drug users are polydrug users, heroin or cocaine tend to be the drugs of choice.

The links between prostitution and drug use and between drug use and related violence have been well documented (Ellinswood 1971; Smith 1972; James 1976; Feldman et al. 1979; Goldstein 1979; Inciardi 1981; Rosenbaum 1981; Miller 1986). In this chapter, an integrated analysis of the relationship between prostitution, drug use, and violence will be presented to provide more insight into the complex social context in which these three behaviors occur.

METHODS

The primary data sources are interviews with 106 female drug-using "streetwalkers" in the New York metropolitan area and 206 male "hustlers" in the Atlanta area. The male and female samples were collected as part of two larger studies. The females were interviewed between July 1986 and March 1989 and the males between March 1988 and July 1989. We conducted 15 open-ended interviews with customers of prostitutes. The Atlanta male hustler sample was 58 percent white and 42 percent black; the mean age was 25; and they worked an average of 5.7 years as prostitutes. Of the New York female prostitutes, 82 percent were black, and their mean age was 30; they had been prostituting themselves for an average of 7.3 years.

Prostitutes are a "hidden" population due to their mobility and their involvement in illegal activities, thus creating sampling and validity problems. Watters and Biernacki (1989) suggest "targeted sampling" as an appropriate method for recruiting such hidden populations. In our samples, we used targeted sampling that combined a variety of recruitment strategies: street ethnography (Weppner 1977), theoretical sampling (Glaser and Strauss 1967), and snowball sampling (Biernacki and Waldorf 1981; Kaplan et al. 1987).

The data are largely based on indepth interviews in which the following issues were discussed: interaction of the prostitutes with colleagues, pimps, and customers; extent of involvement in prostitution activities; initiation into drug use, frequency of drug use, and the shift from incidental to

regular drug use; violence encountered; and changes that occurred in the "street scene."

We avoided drawing a convenience sample of prostitutes in institutional settings, e.g., drug treatment or detention facilities. Only actively working street prostitutes were recruited, and each interview was conducted in the prostitute's natural setting, such as a park, a local coffee shop or restaurant, a car, a parking lot, or on the sidewalk. Recruiting and interviewing respondents in situations with which they are familiar and that they consider as their "territory" enhances their willingness to cooperate and offers greater opportunity to cross-check information. Valid data regarding drug use and sexual activity are difficult to collect (Harrel 1985). To increase the validity of information regarding these behaviors, we developed several validation strategies, and methods were used to prevent multiple interviews with the same respondent, such as comparison of handwritten participant numbers (Elifson et al. 1989). The respondents wrote their own study-participant numbers on several consent forms, and this allowed us to compare handwriting. Data were validated in part by many hours of observing activities of individuals in the geographical areas included in the study. Discrepancies were challenged during interviews. For example, if the researcher never observed condoms on the street or if none of the respondents carried condoms, even though they reported condom use, the inconsistency was openly discussed. Answers to questions about personal behavior and behaviors of others in a similar position, e.g., what do you do compared with what you think most people do, were also compared and challenged.

PROSTITUTION, DRUG USE, AND VIOLENCE

While the prostitution literature clearly concentrates on females, the drug literature focuses primarily on males. Drug use has historically been viewed as a male problem, but this orientation was revised once the extent of drug use among women became evident (Anglin and Hser 1987). Violence against female prostitutes is not a recent phenomenon and has also received considerable attention (Winick and Kinsie 1971; Enablers 1978; Merry 1980; Prus and Irini 1980; Rosen 1982; Weisberg 1985; Silbert and Pines 1983; Miller 1986). The related literature on male prostitutes is less abundant (Reiss 1961; Enablers 1978; Bracey 1979; Pieper 1979; Sternberg 1983). The violence encountered by male and female prostitutes reported in the literature is frequently initiated by customers (Winick and Kinsie 1971; Enablers 1978; Bracey 1979; Symanski 1981; Weisberg 1985; Miller 1986; Reynolds 1986) and, in the case of female prostitutes, their pimps (Milner and Milner 1972; Gagnon 1977; Bracey 1979; Merry 1980; Armstrong 1983). On the other hand, the prostitutes also precipitate violent encounters with their customers and colleagues (Winick and Kinsie 1971; Sternberg 1973; MacNamara and Sagarin 1977; Enablers 1978; Bracey 1979).

Violence seems endemic to the world of prostitution. Often this violence is due to aggressive interaction patterns within the prostitution market, and these are similar to those found in the illicit-drug distribution business. Most prostitution-related violence results from encounters between prostitutes and their pimps over territory and non–drug-related business transactions. A second form of violence increasingly involving prostitutes is related to their drug-use behavior and increased involvement in the drug trade. This drug-related violence may be viewed as psychopharmacological, systemic, or economic compulsive.

Psychopharmacological violence occurs when drug use causes individuals to become agitated and irrational and hence induces violent behavior. Economic compulsive violence occurs when drug users become involved in violent crimes to support their drug habits. Systemic violence refers to the traditionally aggressive patterns of interaction within the system of drug distribution and drug use (Goldstein 1985).

The literature documents a strong overlap between prostitution and drug use (James 1976; Goldstein 1979; Allen 1980; Boyer and James 1983; Weisberg 1985). There are two main routes into the worlds of drug use and prostitution (James 1976; Goldstein 1979; Rosenbaum 1981; Miller 1986). Some drug-using prostitutes were addicted prior to their entrance into commercial vice and started "turning tricks" to support their drug habits. Other prostitutes engaged in prostitution prior to becoming drug users. The availability and affordability of drugs coupled with a need to cope with the stress of prostitution lead many to experiment with illegal substances. Studying drug-using street prostitutes requires consideration of violence related to both prostitution activities and drug use.

THE ATLANTA AND NEW YORK SITUATIONS

We identified a strong tie between prostitution and drug use. All females were drug users—a criterion to be included in this study—and 78.1 percent of the males reported drug use. The prostitution and drug market typically can be found in the same or in adjacent areas—strolls near "drug-copping zones." Field notes captured the following example of violence that occurred in an area where the two activities are adjacent.

> T.X. hustles on A-street and cops drugs in a housing project that is 10 minutes away. He went out last night and had a few customers. After he earned enough money, he went to the project to buy drugs (heroin or cocaine). Once he walked up to his dealer's house—three guys with knives walked up and demanded his money . . . The situation escalated. The hustler explained that they looked for guys coming from A-street.

Many of the prostitutes' friends, lovers, or pimps are often drug users. Female prostitutes reported that they frequently supported their own and their boyfriends' drug habits, but supporting a steady partner was uncommon for the men. Even if the hustler shared his income, it was unusual to share the earnings in the same way that female prostitutes often did with their male partners. Table 1 shows the patterns of drug use among the respondents.

TABLE 1. *Current drug use among female and male prostitutes*

	Females (New York)		Males (Atlanta)	
	Number	Percent	Number	Percent
Mainly IV Use of Heroin or Cocaine*	72	68.0	80	38.8
Mainly Smoking of Crack Cocaine	34	32.0	81	39.3
No Heroin or Cocaine Use	—	—	45	21.9

*Among the male hustlers, IV drug use primarily involved injecting cocaine.

Smoking crack cocaine or freebasing cocaine was reported by 32.0 percent of the women and 39.3 percent of the men. IV drug use of heroin, cocaine, or a combination of the two, called a "speedball," was reported by 68.0 percent of female prostitutes and 38.8 percent of male hustlers. Reinterviews with a subsample of male hustlers revealed that crack use increased from 42.0 percent to 68.0 percent from July through December 1989. Nine of the women switched from IV drug use to freebasing or smoking crack cocaine during the research period.

Findings indicate a sharp contrast between male and female respondents whose drug use led them into prostitution and those who moved from prostitution to drug use. These results are presented in table 2.

While the majority of the women were using drugs prior to their involvement in prostitution, most of the men were hustling first. The data indicate that many women began working as street prostitutes to support their drug habits, while male hustlers started using drugs in response to peer pressure and the availability and affordability of drugs. The interviews also affirmed that most female prostitutes see themselves primarily as drug users, while most male hustlers identify themselves primarily as prostitutes; the men indicated they would not be using drugs if they were not hustling, while

Table 2. *Pathways into drug use and prostitution for males and females*

	Females (New York)		Males (Atlanta)*	
	Number	Percent	Number	Percent
Drug User Prior to Prostitution Activities	78	73.6	35	21.8
Involved in Prostitution Prior to Drug Use	28	26.4	98	60.8

*We were unable to determine the pattern for 28 of the men, and as indicated in table 1, 45 reported no use of heroin or cocaine.

the majority of the women contended they would not be prostituting themselves if they were not using drugs.

With the introduction of crack cocaine on the drug market, a new form of prostitution emerged among the females, and those involved in this behavior are referred to as "crack whores." Heather, an 18-year-old white woman, began obtaining crack cocaine for sexual favors 2 years prior to recognizing she was engaging in prostitution. She related this account:

> I grew up in a protected world. At school I heard my friends talk about drugs, but I would stay away from the kids that were experimenting. I was curious, and one day it just happened. My best friend had been trying cocaine, and she told me she had smoked crack . . . I tried it once, and the next day I took my money with me to buy more. I got involved in everything, including sex . . . I was a whore, but I didn't know it until I had to find johns on the street.

Of the female prostitutes who smoked crack cocaine (n=34), almost half (n=15) reported that they were addicted to this drug and were performing sex in exchange for the drug or for money to purchase it before they identified themselves as prostitutes. In contrast, only two male hustlers admitted that they had engaged in sex at so-called "crack spots" in return for money to buy crack cocaine. These two men labeled themselves immediately as prostitutes and did not experience the denial process described by Heather and other women. They also never exchanged sex directly for crack. Male hustlers who smoke crack cocaine are generally paid in dollars. This may change as more male prostitutes become addicted to crack or as more males become prostitutes due to an expensive crack habit.

Ultimately the search for a source to support a crack cocaine habit led many of its users to the streets. A black male in his early twenties revealed how he lost his job in Houston after having turned to crack cocaine following his separation from his wife. His drug use led him into prostitution. He has been working as a street hustler for 2 years and is dealing with his craving for crack.

PATTERNS OF DRUG USE AND RELATED VIOLENCE: A DISCUSSION

While IV drug use was common among heroin-using street prostitutes, snorting was the preferred mode of administration for cocaine users. IV cocaine use became increasingly popular in the late seventies and early eighties when supply exceeded demand and the drug was being marketed cheaply. As a result, cocaine became the drug of choice for a growing number of people, with confounding changes in drug-use patterns. The different psychopharmacological effects of heroin and cocaine are associated with marked differences in behaviors (Friedman et al. 1989). While a heroin high tends to be relaxing and can last for several hours, cocaine has the opposite effect, with a high generally less than 20 minutes. Consequently, cocaine is injected more frequently over a short period of time, very often referred to as a "binge." Among the Atlanta and New York prostitutes, IV cocaine use was reported to be more common among the males than among the females. The women preferred to inject heroin or speedballs (data not shown). It is unclear whether this discrepancy is due to the availability of heroin or cocaine on the New York and Atlanta markets or to gender differences.

With the increasing availability of cocaine on the drug market, the use of crack cocaine or freebasing cocaine became more popular. Those who did not want or like to inject drugs could get a similar high by smoking crack cocaine. In addition, cocaine became affordable for less prosperous individuals. If a user could not afford $50 or more to buy a gram, smaller amounts could be purchased—owing to marketing of rocks of crack cocaine—for a price between $5 and $20. This does not mean, however, that a crack cocaine habit is cheap. Users become addicted very quickly, and the crack-cocaine-using prostitutes reported that they would continue to buy the drug until they had exhausted their funds.

Among drug-using street prostitutes, the frequency and extent of violence are linked to both their drug use and their prostitution activities. This discussion focuses on ways in which current patterns of drug use among prostitutes have contributed to an increase in violence in an already violent lifestyle.

Psychopharmacologic Violence

The most common type of violence reported by the prostitutes is psychopharmacologic. Both male and female prostitutes stated that their drug use had a negative effect on their attitudes and that they easily became irritable and hostile if they had been using drugs. The psychopharmacologic effects of prolonged cocaine use, such as aggression, anxiety, suspicion, and fear, were frequently mentioned as reasons for violence. Similarly, prostitutes reported being hostile and sometimes violent while coming down from a high, unable to satisfy a customer, or unwilling to spend more than 10 minutes with him. We did not find a difference according to gender.

The greater the "crash" (coming down from a high), the more violent the prostitutes became with customers. Since the crash from cocaine has been shown to be intense and an increasing number of street prostitutes use cocaine, the interaction between prostitute and customer seems to have become more violence prone than in the past. Prostitutes and customers are unlikely to report these incidents to the legal authorities because of the illegal character of their activities.

The prostitutes' drug use affects not only their interaction with customers, but also relationships with colleagues. Traditionally, drug-using prostitutes have been accused by their non–drug-using peers of giving prostitutes a negative reputation and of disturbing the market by working for relatively low prices, not being selective with customers, or providing uncommon sexual services (James 1976; Goldstein 1979; Rosenbaum 1981; Miller 1986). Although initially the female crack cocaine prostitutes worked away from the strolls, recently they have begun to encroach on the "regular" strolls—places where sex is less commonly exchanged for drugs but where money is the medium of exchange. The non–crack-cocaine-using prostitutes stated that their crack-using competitors constantly violated norms, e.g., stole other prostitutes' clients or worked below market rates. The norm among street prostitutes is not to interrupt once a prostitute and client begin negotiating. Due to their crack use, such women, according to their peers, often violated this tacit agreement and precipitated violence. The prostitutes who do not use crack view cocaine as a drug that makes people "crazier" (uncontrollable and aggressive) than does any other drug. Several female prostitutes mentioned that crack cocaine users on the stroll became violent and were unable to recall the incident. The drugs had made them angry, and they lost control.

The prostitutes' drug use also causes them to be victimized. Some prostitutes reported that they could not remember whether, or under what exact circumstances, they had trouble—varying from verbal argument to violent episode—with a customer nor could they recall the customer's description. Generally, the prostitutes return to the stroll after they have acquired and

used a drug. This places them in a vulnerable position if they are recognized by a recent victim.

Prostitutes are also prone to become victims if their clients realize they are high and see this as an invitation to take advantage of them. The female prostitutes reported having been forced to perform sex without payment (n=7), having been physically assaulted and robbed of their earnings (n=32), and having been forced into sexual acts they refused to perform (n=19). None of the male prostitutes reported being victimized by customers due to their drug use.

A main difference between male and female prostitutes is that most of the time female prostitutes' pimps are involved. The majority of the female prostitutes (n=72) reported working for a pimp. Of these 72 women, 88.9 percent reported having been physically assaulted by their pimps. These assaults frequently stemmed from disputes over excessive drug use and problems relating to craving or withdrawal. The earnings of addicted prostitutes may be reduced by their drug dependency, and they often seek to withhold payment to their pimps to ensure a regular drug supply.

Drug use among female prostitutes may also limit the number of customers they can deal with, consequently angering their pimps. A woman who is slow or a woman who returns less money than she should is subject to repeated abuse. The probability of violence escalates if both the pimp and the woman are drug users, since both partners must deal with the psychopharmacological effects of drug abuse, and both partners feel pressure to earn enough money to support their drug habits.

Crack-addicted prostitutes differ from their peers in that the role of a pimp in facilitating their entry into prostitution is limited. These women indicate that they became involved in prostitution primarily because of their intense craving for crack cocaine. They are less loyal and compliant than non–crack-cocaine-using women. No data are available for male prostitutes, since we are not aware of hustlers working for pimps.

Systemic Violence

The second common type of violence is systemic violence. As indicated, IV cocaine users tend to inject more frequently during a relatively short period of time than do heroin users. One-third of the male and female cocaine injectors mentioned verbal arguments and fights over the state of their injection equipment, e.g., a shortage of hypodermic sets and dull, clogged, or broken syringes. Systemic violence among the street prostitutes has also changed due to increased crack cocaine use. Data derived from qualitative interviews indicate that an increasing percentage of prostitutes, both male and female, have become involved in drug dealing, and 43 percent of the women report involvement in drug dealing (data for the males

are lacking). The prostitutes' involvement in drug dealing increases the rate of violence, not only between them, but also with others involved in the drug trade. Systemic violence related to drug dealing includes violent disputes about the price or quality of drugs and drug paraphernalia, retribution for failing to pay debts to dealers higher in the hierarchy, or for selling adulterated drugs. In addition, several female prostitutes mentioned making money on the side by working as lookouts for the crack dealers. Perpetrators and victims constantly change roles; the person who "performs" one day might be a victim the next. The fear of becoming a victim was mentioned by several respondents as a reason for their victimizing others.

Economic Compulsive Violence

The prostitutes' drug use can also cause them to engage in economically oriented violent crimes, including robbery of customers. Holzman and Pines (1982) describe how the majority of the prostitutes' clients pursue the encounter with "great expectations." Clients anticipate that the prostitute will meet their sexual desires. As one customer stated, "I'm paying for complete satisfaction." Due to their craving for more drugs and their withdrawal symptoms, however, two-thirds of the female prostitutes reported situations in which they failed to satisfy a customer, or they refused to engage in a time-consuming sexual act. These prostitutes reported being obsessed with getting money to purchase drugs, stating they would try to dispense with their clients "quickly" or would seek money without offering sex.

Over 69 percent of the New York and Atlanta respondents (n=216) mentioned that they had robbed a customer at least once and used the money to purchase drugs. The qualitative interview data indicated that male prostitutes were more likely than women to engage in robbery to support their drug habits. These qualitative data do not allow presentation of percentages, since some prostitutes during the interview referred to their own involvement and others referred to their own and other prostitutes' involvement while talking about involvement in robberies. One hustler admitted that he had been arrested several times for simple battery, attempted robbery, and aggravated assault. The females tended to support their drug habits by engaging in crimes such as shoplifting or drug dealing.

The excessive financial cost of a crack habit has led to an increase in economic compulsive violence. In addition to crack's being an expensive habit to support, the pattern of crack use is very compulsive. Goldstein (1985) has identified these factors as important motives behind economic compulsive violence. Sufficient data were not available to distinguish between male and female prostitutes on this issue.

Additionally, the prostitutes reported that drug users not involved in prostitution activities increasingly tried to rob them. Many male and female prostitutes indicated that "since crack I realize I can't be out here after

dark. I never thought I would quit . . . The things that are going on are unheard of."

CONCLUSION

In discussing prostitution and related violence, the existence of male hustlers cannot be ignored. Although they are less common, they form an important part of the prostitution business. Data from our sample reveal that, although men often enter prostitution prior to becoming drug abusers, women are already using illicit drugs before they become prostitutes. We have indications that the number of Atlanta men who prostitute themselves to support their drug habits might increase with the growing number of crack cocaine users. While the term "crack whores" still refers to females who exchange sex for crack cocaine, this expression might soon apply to men.

The emerging crack cocaine epidemic is changing the dynamics of the prostitution market; crack-cocaine-using prostitutes (females and males) are feared by their peers, since they are seen as responsible for increases in frequency and severity of violent episodes, such as violent incidents with colleagues, customers, and pimps or between pimps, and violence related to drug dealing. In general, street prostitution has become more unpredictable and dangerous. With the growing overlap between prostitution and drug use, more violent episodes on the prostitution market are related to the prostitutes' drug-using behaviors and increased involvement in the drug trade.

Our findings are based on open-ended interviews and provide insight into the social ecology of female and male prostitution strolls and drug-copping areas. Effective changes are needed to improve the situation. These include expansion of drug-treatment opportunities, educational opportunities, and job alternatives for prostitutes. At the same time, there is a need for additional research on drug-related violence among street prostitutes, given the increased involvement of prostitutes in the drug-using and drug-dealing subculture.

REFERENCES

Allen, D. Young male prostitutes: A psychological study. *Arch Sex Behav* 9:399-426, 1980.

Anglin, D.M., and Hser, Y. Addicted women and crime. *Criminology* 25:359-397, 1987.

Armstrong, E. Pondering pandering. *Dev Behav* 1:203-217, 1983.

Biernacki, P., and Waldorf, D. Snowball sampling: Problems and techniques of chain referral sampling. *Soc Methods Res* 2:141-163, 1981.

Boyer, D., and James, J. Prostitutes as victims. In: MacNamara, D., and Karmet, A., eds. *Deviants: Victims or Victimizers.* Beverly Hills, CA: Sage, 1983. pp. 109-146.

Bracey, D. *Baby-Pros: Preliminary Profiles of Juvenile Prostitutes.* New York: Johns Hopkins Press, 1979.
Elifson, K.; Boles, J.; and Sweat, M. Studying male prostitutes during the AIDS crisis: The tension between epidemiology, ethnography and outreach. Submitted for publication, 1989.
Ellinswood, E. Assault and homicide associated with amphetamine abuse. *Am J Psychiatry* 127:1170-1175, 1971.
Enablers, Inc. *Juvenile Prostitution in Minnesota.* Internal report, 1978.
Feldman, H.; Agar, M.H.; and Beschner, G.M., eds. *Angel Dust: An Ethnographic Study of PCP Users.* Lexington: Lexington Books, 1979.
Foltz, T. Escort services: An emerging middle class sex-for-money scheme. *California Sociologist* 2:105-133, 1979.
Friedman, S.R.; Sterk, C.E.; Suffian, M.; and Des Jarlais, D. Potential limitations of the use of bleach as a HIV decontaminant by intravenous drug users. *JAMA* 262:1467, 1989.
Gagnon, J.H. *Human Sexualities.* Glenview, IL: Scott Foresman, 1977.
Glaser, B.G., and Strauss, A. *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Chicago: Aldine Publishing Co., 1967.
Goldstein, P.J. *Prostitution and Drugs.* Lexington: Lexington Books, 1979.
Goldstein, P.J. The drugs violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1985.
Greenwald, H. *The Call Girl: A Social and Psychoanalytic Study.* New York: Ballantine Books, 1958.
Harrel, A. Validation of self-report: The research record. In: Rouse, B.; Kozel, N.; and Richards, L., eds. *Self-Report Methods of Estimating Drug Use: Meeting Current Challenges to Validity.* National Institute on Drug Abuse Research Monograph 57. Rockville MD: the Institute, 1985.
Holzman, H., and Pines, S. Buying sex: The phenomenology of being a john. *Dev Behav* 4:89-116, 1982.
Inciardi, J.A. *The Drugs/Crime Connection.* Beverly Hills, CA: Sage Publications, 1981.
James, J. Prostitution and addiction: An interdisciplinary approach. *Int J Addict* 2:601-618, 1976.
Kaplan, C.D.; Korf, D.; and Sterk, C.E. Temporal and social contexts of heroin-using populations: An illustration of the snowball sampling technique. *J Nerv Ment Dis* 175(9):566-574, 1987.
Luckenbill, D. Dynamics of the deviant sale. *Dev Behav* 5:337-353, 1984.
MacNamara, D., and Sagarin, E. *Sex, Crime and the Law.* New York: Free Press, 1977.
MacVicar, K., and Dillon, M. Childhood and adolescent development of ten female prostitutes. *J Am Acad Child Psychiatry* 1:145-159, 1980.
Merry, S. Manipulating anonymity: Streetwalkers' strategies for safety in the city. *Ethnos* 45:157-175, 1980.
Miller, E. *Street Women.* Philadelphia: Temple Press, 1986.
Milner, C., and Milner, R. *Black Players: The Secret World of Black Pimps.* Boston: Little Brown, 1972.

Pearl, J. The highest paying customers: America's cities and the costs of prostitution control. *Hastings Law Journal* 38:769-800, 1987.
Pieper, R. Identity management in adolescent male prostitution in West Germany. *Int Rev Modern Soc* 9:239-259, 1979.
Prus, R., and Irini, S. *Hookers, Rounders, and Desk Clerks: The Social Organization of the Hotel Community.* Salem, WI: Sheffield Publishing Co., 1980.
Reiss, A. The social integration of queers and peers. *Social Problems* 9:102-109, 1961.
Reynolds, H. *The Economics of Prostitution.* Springfield: Thomas, 1986.
Rosen, R. *The Lost Sisterhood: Prostitution in America 1900-1918.* Baltimore: Johns Hopkins University Press, 1982.
Rosenbaum, M. *Women on Heroin.* New Brunswick, NJ: Rutgers University Press.
Silbert, M. *Sexual Assault of Prostitutes.* Washington, DC: National Center for Prevention and Control of Rape, the National Institute of Mental Health, 1980.
Smith, R. Speed and violence: Compulsive methamphetamine abuse and criminality in the Haight-Ashbury district. In: Zarsfonetis, B., ed. *Drug Abuse: Proceedings of the International Conference.* Philadelphia: Lea and Febiger, 1972.
Sterk, C.E. *Living the Life: Prostitutes and Their Health.* Rotterdam: Erasmus University Press, 1990.
Stemberg, D. Prostitutes as victimizers. In: MacNamara D., and Karmen, A., eds. *Deviants: Victims or Victimizers.* Beverly Hills, CA: Sage, 1983. pp. 77-107.
Symanski, R. *The Immoral Landscape: Female Prostitution in Western Society.* Toronto: Butterworth, 1981.
Watters, J.K., and Biernacki, P. Targeted sampling: Options for the study of hidden populations. *Social Problems* 36(4):416-430, 1989.
Weisberg, K. *Children of the Night: A Study of Adolescent Prostitution.* Lexington: Lexington Books, 1985.
Weppner, R.S. *Street Ethnography: Selected Studies of Crime and Drug Use in Natural Settings.* Beverly Hills, CA: Sage, 1977.
Winick, C., and Kinsie, P. *The Lively Commerce.* Chicago: Quadrangle Press, 1971.

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Drug Disorder, Mental Illness, and Violence

Karen M. Abram and Linda A. Teplin

INTRODUCTION

The relation between drug use and crime has been studied extensively (Gandossy et al. 1980; Gropper 1985; Inciardi 1981; McBride and McCoy 1981; Nurco et al. 1985; Wish and Johnson 1986). However, the nature of the connection between violent crime and drug use continues to be deliberated (Gandossy et al. 1980; Goldstein 1985; McBride 1981; Wish and Johnson 1986). In part, the difficulty in understanding this connection stems from the complexity of the phenomenon. Violence is determined by an interplay of factors: the emotional states and motivations of the suspects and victims, pharmacologic influences, the financial demands of sustaining a habit, and the systemic context, i.e., the inherent danger of illegal drug distribution (Blackburn 1986; Dembo et al. 1987; Gandossy et al. 1980; Goldstein 1985; Langevin et al. 1987).

Understanding the connection between drugs and violent crime is also complicated by a lack of consensual definitions (Gandossy et al. 1980; Goldstein 1985). For example, operationalizations of drug use vary. Some studies rely on urinalysis, which detects only very recent use. Other studies use diagnostic or usage patterns, which reflect sustained use. Because each aspect of substance abuse may have a unique relation to violent activity, inconsistent findings in the literature are difficult to interpret.

One potentially influential variable in the relation between drugs and violent crime is the addict's co-occurring psychopathology (Langevin et al. 1987). Psychopathology is likely to have an important effect for two reasons. First, substance abuse and psychopathology frequently co-occur. Addicts (Rounsaville et al. 1982; Khantzian and Treece 1985; Ling et al. 1973); psychiatric patients, especially Veterans Administration (McLellan et al. 1978; O'Farrell et al. 1984); young adult chronic patients (Bergman and Harris 1985; Test et al. 1985); and offender populations (Abram 1989; Abram and Teplin, submitted for publication) have high rates of substance

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abuse and psychopathology. Second, the interaction between addiction and psychopathology appears to affect criminality. The type of psychopathology exhibited by addicts is correlated with the effect of treatment on criminal activity (Rounsaville et al. 1986; Woody et al. 1985). The importance of psychological variables has also been confirmed by Weisman et al. (unpublished manuscript): criminal activity patterns successfully differentiated addicts' Minnesota Multiphasic Personality Inventory profiles.

The connection between drug use, psychopathology, and violence raises a number of questions. Do persons with dual diagnoses (both drug-use disorder and mental disorder) commit more violent crimes than persons who abuse drugs but are not mentally ill? Are persons who suffer from certain combinations of drug use and psychopathology particularly prone to violent crime?

LITERATURE REVIEW

Despite the need for information on drug use, mental disorder, and violent crime, there are little data. Few studies include all three variables. For example, no study of arrest rates among drug users controlled for co-occurring mental disorder. Two types of studies, however, provide some relevant information: (1) studies of violent crime among mental patients (controlling for co-occurring drug use); and (2) studies of co-occurring drug use and mental illness among offenders.

Studies of Violent Crime Among Mental Patients

Studies of arrest rates among former psychiatric patients have generally classified patients only by their primary diagnosis (Black and Spinks 1985; Durbin et al. 1977; Giovanonni and Gurel 1967; Rappeport and Lassen 1965; Sosowsky 1978; Zitrin 1976). Co-occurring drug disorders were not measured. Because of insufficient sample size, two other studies did not differentiate between violent and nonviolent arrests (Harry and Steadman 1988; Steadman et al. 1978). Only two studies of violent crime among psychiatric patients included measures of substance abuse (Holcomb and Ahr 1988; Klassen and O'Connor 1988a; Klassen and O'Connor 1988b). Klassen and O'Connor studied inpatients who had a history of violent behavior to see what factors determined subsequent arrests for violent crime. They found that, in addition to age and prior violence, substance abuse predicted subsequent violent crime. Holcomb and Ahr's sample included young adult inpatients. Their multivariate model for predicting violent arrest examined a variety of sociodemographic and diagnostic variables. No diagnosis (including substance abuse) was a significant predictor. Unfortunately, neither of these studies differentiated between alcohol and drug use.

Studies of Co-Occurring Drug Use and Psychopathology Among Offenders

Three studies of offenders included drug, mental disorder, and violence variables (Abram 1989; Langevin et al. 1987; Swett 1985). In Swett's sample of criminally insane inmates, he found that violent offenders were less likely to have abused drugs than nonviolent offenders. On the other hand, Langevin and colleagues found that, while violent offenders were more likely to use drugs than nonviolent offenders, there were no diagnostic differences between the groups. Their small sample, however, precluded examining these variables in a multivariate fashion. Abram (1989) examined the effect of drug, alcohol, and antisocial disorder on previous arrest. She found that when controlling for antisocial disorder and age, drug disorder was not predictive of violent crime. However, Abram's study did not include severe mental disorder nor did it differentiate between subtypes of drug disorder.

In sum, no study has thoroughly examined the effect of drug use and co-occurring psychopathology on violence. This chapter examines the mediating role of mental illness in drug–violence relations among 728 male jail detainees. Thus, this study will examine whether drug use and psychopathology, alone and in combination, are predictive of violence.

METHOD

Subjects

Data were collected between November 1983 and November 1984 at the Cook County Department of Corrections (CCDC), in Chicago, IL. CCDC is used solely for pretrial detention and for offenders sentenced less than 1 year on misdemeanor charges.

Subjects were male detainees randomly selected from pretrial arraignment (n=728). For the study to include a sufficient number of detainees accused of serious crimes, the sample was stratified by category of charge (one-half misdemeanants, one-half felons). Persons charged with both misdemeanors and felonies were categorized as felons. Data were then weighted to reflect the jail's actual misdemeanor–felony distribution.

All detainees, excluding persons with gunshot wounds or other traumatic injuries, were part of the sampling pool. Personnel at the jail referred all persons intended for participation in the project regardless of their mental state, potential for violence, or fitness to stand trial. Since virtually no detainee was a priori ruled ineligible, the sample was unbiased in relation to the characteristics of the larger jail population.

Subjects ranged in age from 16 to 68, with mean and median ages of 26.3 and 25, respectively. The majority were black (80.8 percent), 12 percent were Caucasian, and 6.5 percent were Hispanic. The remaining (0.8 percent) subjects were mostly Asian and American Indian. Fewer than half of the detainees were employed at the time of their arrest (42.6 percent). Education level ranged from 2 to 16 years, with mean and median being 10.6 and 11.0 years, respectively. These demographic characteristics are consistent with those of urban jails nationwide (U.S. Department of Justice, in press).

Procedure

Interviewers were three clinical psychologists, all of whom held Ph.D.s and were extensively trained in interviewing techniques, psychopathology, and the data collection instrument. Persons selected by the random sampling procedure (a random numbers table) were approached during the routine jail intake process by the research interviewer. The potential subjects were told that the goal of the project was to find out more about the people who come to CCDC. The interviewer stressed that the detainees' participation would not affect their treatment while in jail or shorten their incarceration. Subjects who agreed to participate signed a consent form and were paid $5 for taking part. Persons who declined to participate proceeded through intake.

Of 767 detainees approached, only 35 (4.6 percent) declined to participate. The low refusal rate was probably due to the detainees' viewing the research project as a way of avoiding the crowded and dismal conditions of the regular intake area. Two subjects were excluded because the interviewer felt they were inventing their responses. Two others were "duplicate" subjects; they were rearrested at some time after their initial interview and again randomly selected. The final n was 728.

Subjects were interviewed in a soundproof, private glass booth in the central receiving and processing area. Diagnostic assessments were made using the National Institute of Mental Health Diagnostic Interview Schedule (NIMH–DIS) (Robins et al. 1981a). Empirical tests have documented the reliability of the NIMH–DIS in both institutionalized samples and the general population (Burke 1986; Helzer et al. 1985; Robins et al. 1981b; Robins et al. 1982. In contrast, it must be noted that Anthony et al. (1985) found that the NIMH–DIS disagreed substantially with psychiatric diagnoses. The NIMH–DIS systematically differentiates between disorders that were ever manifest, even if currently remitted ("lifetime" disorders), and disorders in which symptoms have been recently experienced ("current" disorders).

The NIMH–DIS provides diagnostic categories rather than global psychopathology scores. Diagnostic and Statistical Manual, Version III (DSM–III) diagnoses are scored from the interview data by a computer program written

expressly for this purpose (Robins 1985a). Because of subject variance over time and the rarity of many disorders, it is difficult to assess the reliability and validity of psychiatric assessments such as the NIMH–DIS (Robins 1985b). Nevertheless, a test–retest consistency check of 20 cases yielded results that compare favorably with other studies (Robins 1985b): 93 percent agreement across all diagnoses and 95 percent agreement for the severe disorders. Two independent interviewers gave nearly identical profiles to 85 percent of the cases. Interviewer consistency was scrupulously maintained after the initial 3-month training period via mock interviews with live subjects, spot checks, and videotape training.

The interviews lasted between 1 and 3 hours, depending on the number of positive symptoms of the detainee. After the interview, the detainee was thanked for his participation and escorted by jail staff back to the intake area.

Arrest data were obtained from Chicago Police Department records. Each file contained the detainee's "rap sheet," itemizing his arrest and conviction history. Charges incurred outside the county were routinely transcribed from FBI and Illinois Bureau of Investigation (IBI) records onto the rap sheet so that this procedure resulted in a relatively complete data set. For each subject, we obtained the entire arrest history as well as data on arrests incurred during the 3 years postinterview. Rap sheet history information was unavailable for only 28 (less than 4 percent) of the subjects, and the 3-year followup data were unavailable for 40 (about 5.5 percent) of the subjects.

The criminal history data involved mostly objective variables that required low levels of coder inference. Nevertheless, for each data collection effort, two research assistants coded the data for at least 2 weeks to gather the data necessary to confirm the interrater reliability of the coding procedures. Analysis of the reliability of the coding instrument revealed interrater reliability consistently above .90.

DEFINITION OF TERMS AND DATA MANAGEMENT

Drug and other mental disorders were based on DSM–III criteria and assessed using the NIMH–DIS version III.

Drug Disorder

We categorized arrestees into four groups with respect to drug abuse or dependence: (1) no drug disorder, (2) marijuana disorder only, (3) opiate disorder only, or (4) polydrug disorder (excluding alcohol). Unfortunately, the NIMH–DIS does not indicate whether drugs in a lifetime polydrug profile were actually used concurrently.

This four-tier approach omitted subjects who had a diagnosis of a single drug other than marijuana or opiates (n=25 for lifetime; n=11 for current). There were too few in each of those categories to include them in this analysis, and there was no reasonable way to incorporate them into existing categories. We defined current drug disorder as active within 1 year of the interview.

Unlike the remaining disorders to be discussed, a detainee was considered to be drug disordered irrespective of the severity of the disorder. This means that subjects were diagnosed as drug disordered if they described a pattern of abuse or a pattern of tolerance, along with interference with social or emotional functioning.

Psychiatric Disorder

The psychiatric diagnostic categories were determined conservatively. To meet criteria for a particular disorder, the subject had to attain the "definite" or "severe" category (whichever was applicable); all "possible" or "mild" cases were scored as absent. Disorders other than drug disorder were considered to be current if symptoms were experienced within 2 weeks of the interview. We categorized disorders using the following scheme: (1) schizophrenic disorders, (2) major depressive or dysthymic disorders, (3) alcohol abuse or dependence, and (4) antisocial personality disorder. This scheme omitted all subjects who met criteria for manic episodes (n=16, lifetime; n=9, current) and severe cognitive impairment (n=2). Cell size limitations precluded their comprising independent categories, and there was no reasonable way to collapse them into other diagnostic categories.

In our analyses, we ignored "exclusionary criteria" (Boyd et al. 1984) because our goal was to examine explicitly the co-occurrence of symptom constellations comprising disorders. For the same reason, we did not distinguish between primary and secondary onset of disorders. The NIMH-DIS discriminates disorders that occur only in the context of a substance-induced state, and we did not record diagnoses based on such symptoms as being present.

The diagnosis of antisocial disorder included two questions directly related to arrest and conviction history. This posed obvious confounding in the exploration of prior criminal activity by diagnosis. Therefore, final models in which antisocial disorder was a significant predictor were performed twice—with and without these two criteria. Restricting the diagnostic criteria had only a very minor effect on the estimates. Therefore, the original criteria were used for the presentation of results.

Lifetime occurrence of disorders was used to predict prior arrests; current disorders were used to predict current and followup arrests.

Criminal Variables

Our criminal activity data included official arrest activity both prior to our interview (past criminal activity) and during 3 years following our interview (followup criminal activity). For the purposes of this study, violent crime included murder, manslaughter, kidnapping, aggravated battery, unlawful restraint, aggravated assault, assault, battery, robbery, rape, and deviant sexual assault.

A common problem in this type of research is controlling for the time available to commit crime during the followup period (Blumstein and Cohen 1979; Blumstein et al. 1986). For example, a detainee who is in jail for 2 of the 3 followup years would (other things being equal) be less likely to be rearrested than a person who was not free for all 3 years. For our model predicting future arrests for violent crimes, we controlled for days available for rearrest after jail or prison incarceration. Two factors were subtracted from the 3-year followup period. First, the number of days spent in jail postinterview corresponding to the current arrest were subtracted. (These data were available from jail records). Once a detainee was released from the jail, either after being found not guilty, bonding out, or after having completed his sentence, his time available for rearrest began. Second, incarceration sentences (in days) received for any arrest taking place during the 3-year followup period (these data are noted on the rap sheet) were also subtracted. This period of time was an estimate, since detainees were often released before their sentences elapsed. Because data on actual time served by detainees were unavailable, we weighted sentences by the calculated minimum sentence served by inmates in Illinois prisons based on Illinois sentencing law for a 10-year sentence, .475 (Illinois Criminal Justice Information Authority 1989). This figure is consistent with the national average of percentage of time served in prison (Jamieson and Flanagan 1989).

Assuming a normal distribution around .475, our best estimate of the proportion of sentence served, some detainees will be available for rearrest during their estimated time unavailable. This error will bias (reduce) our estimate of the effect of "days out" on future violent crime. We include days out in our model as a control variable. To the extent that days out truly affects future violence and is correlated with the other exogenous variables in our model, estimates of the other effects will be biased. This bias is a function of the covariance of the proportion of sentence served and the other exogenous variables. Despite these problems, this correction is necessary to provide a better estimate of criminality.

Final Sample Size

Based on the aforementioned data management decisions, the final sample was 678 for the analyses involving lifetime disorder and 675 for those involving current disorder.

RESULTS

Predicting Past Arrest for Violent Crime

The first phase of data analysis focused on developing a model to examine the role of psychopathology in the relationship between drug disorder and past arrest for violent crime. Because the relationship between psychiatric disorder and violent crime is probably influenced by a variety of factors such as age, education, and race, and because detainees often have more than one co-disorder, it is difficult to distinguish the effects of specific disorders on drug–crime relations. To address these issues, we examined these relations in a multivariate context. Since the dependent variable was ratio level (number of past arrests), we used weighted least squares regression (WLS). WLS provides unbiased linear parameter estimates from stratified samples.

The dependent variable was the natural log of the number of prior violent crime arrests. We examined the following independent variables: three lifetime drug dummy variables (marijuana only, opiate only, and polydrug; the reference group was no drug disorder), lifetime schizophrenic disorder (yes or no), lifetime depressive disorder (yes or no), lifetime alcohol-use disorder (yes or no), and lifetime antisocial personality disorder (yes or no). Linear and quadratic forms of centered (the mean was subtracted from each case) age (Age, Age^2) and years of education (Educ, $Educ^2$) were included. Race was effects coded (Cohen and Cohen 1983) such that the means for Hispanics and whites were compared to those for the total sample. Interactions for drug by diagnosis and race by diagnosis effects were also tested.

The final model is reported in table 1. None of the drug disorders has a significant effect on past arrests for violent crimes. Understandably, older persons show more violent arrests, though the slope of this effect decreases with each year of age as indicated by the negative Age^2 coefficient. Education is inversely related to past arrest for violent crime. Antisocial personality disorder is positively associated with greater numbers of violent arrests. On average, however, Hispanics have fewer violent crime arrests in their past. Finally, depressed opiate users are less likely than others to have violent-crime arrests in their pasts, as indicated by the negative Depression by Opiate interaction term.

Predicting Future Arrest for Violent Crime

The second phase of data analysis focused on developing a model to predict whether or not the detainee was arrested for a violent crime during the 3-year followup period. We again examined these data in a multivariate context. Since the dependent variable (rearrested vs. not rearrested) is categorical, we used logistic regression. Logistic regression estimates the nonlinear

TABLE 1. *Final WLS model predicting logged number of past arrests for violent crime by 728 mail jail detainees*

Variable	B (slope)	Standard Error of B	Beta	F	p
Marijuana	−.05696	.06857	−.03254	.690	.4065
Opiate Only	.11527	.11474	.04135	1.009	.3154
Polydrug	−.10038	.08659	−.04638	1.344	.2468
Age	.03812	.00524	.37873	52.890	.0000
Age^2	−.00252	.00032	−.23986	22.535	.0000
Education	−.08218	.01567	−.19571	27.500	.0000
Hispanic	−.16439	.05264	−.11646	9.753	.0019
Antisocial Personality	.19152	.05961	.12218	10.324	.0014
Opiate by Depression	−.54175	.27570	−.07614	3.861	.0498
Constant	.73129	.07064		107.174	.0000

NOTE: Multiple r=.39024; r^2=.15229.
Analysis of Variance:

	df	Sum of Squares	Mean Square
Regression	9	62.45963	6.93996
Residual	638	346.67477	.52838

logistic effects of exogenous variables on the binary probabilities of the response variable.

Variables included in the multivariate examination were the same as the previous model with the addition of two variables: days available for re-arrest (with sentences weighted as described earlier) and natural log of the number of past arrests for violent crimes. Instead of lifetime disorder, we used current drug and diagnostic disorders as predictors. Drug by diagnosis and race by diagnosis interactions were also tested. Main effects of drug variables were not available for removal in this selection procedure.

Table 2 shows the final logistic regression model and those factors that significantly predict rearrest for violent crime. Logistic effects, partial derivatives, and standard errors are reported. Reported partial derivatives indicate the strength of the effect (the steepness of the slope), holding all other effects constant, when the future arrest rate is 50 percent. The probability of future arrest for violent crime drops sharply with age and with education. This is especially true with education, as shown by the negative Educ^2 coefficient, in which the strength of this effect increases with each year of education. Previous arrest for violent crimes is also a strong predictor of future arrest for violent crime. The same is true for days out of jail; the more time available to commit a crime, the more likely there is to be an arrest for a violent crime. Finally, the table indicates that opiate

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disorder has a strong and negative effect on the probability of future arrest for a violent crime. No other drug effect was a significant predictor of arrest for violent crime.

TABLE 2. *Final logistic regression model predicting arrest for violent crime during 3-year followup by 728 male jail detainees*

Variable	Regression Coefficient	Standard Error	Coefficient/ Standard Error
Marijuana Only	-.0237	.0523	-.4538
Opiate Only	-.1778	.0876	-2.0288
Polydrug	-.0182	.0640	-.2840
Age	-.0107	.0034	-3.1441
Education	-.0450	.0195	-2.3037
$Educ^2$	-.0074	.0032	-2.2791
Past Violent Arrests	.2684	.0320	8.3999
Days Out	.0460	.0090	5.1111
Constant	-.8008	.0526	-15.2152

NOTE: Goodness-of-fit chi square=635.309; df=618; p=.306.

DISCUSSION

The results of this study were consistent with much of the literature predicting violent crime and shed some light on the drug–violence connection.

Poor education was a very strong predictor of both past and future violent arrest. Poor intellectual ability has consistently been found to be predictive of violence. Researchers have interpreted this relationship to be a result of the reduced coping resources available to persons of low intelligence (Klassen and O'Connor 1988a; Klassen and O'Connor 1988b; Hedlund et al. 1973; Langevin et al. 1987).

Increased age was also found to be predictive of the number of past violent arrests. Having lived longer, older detainees have had more opportunity to commit crimes. The age effect, however, diminishes with each year of age. This reflects the high rate of violent crime among young detainees. For future arrest, youth was a strong predictor. This finding is consistent with the literature: violent crimes tend to be perpetrated by the young (Harry and Steadman 1988; Holcomb and Ahr 1988; Klassen and O'Connor 1988a; Klassen and O'Connor 1988b; Steadman et al. 1978).

We found no race effects, other than an inverse relationship between being Hispanic and past violent arrests. Because our sample included so few Hispanics, further study is necessary before making any additional conclusons regarding the relation between ethnicity and violence.

Neither schizophrenia nor depression predicted arrest for violence. These findings were consistent with research on mental disorder and violence. Monahan and Steadman (1983) have suggested that, after controlling for variables known to correlate with crime and mental disorder (e.g., race and social class), the relation between serious mental disorders (e.g., schizophrenia, major affective disorder) and crime disappear (Langevin et al. 1987). Interestingly, alcohol disorder also was not predictive of violence.

In contrast, antisocial personality disorder was a strong predictor of past violent arrest, even after we removed the confounding diagnostic criteria (arrest and conviction items). Antisocial personality did not, however, predict subsequent arrest for violent crime. This may be because this model also included an index of past violent crime arrests. The strong correlation between past violent crime and subsequent violent crime (Harry and Steadman 1988; Holcomb and Ahr 1988; Klassen and O'Connor 1988a; Klassen and O'Connor 1988b; Shah 1978; Steadman et al. 1978) may have obfuscated the relationship between the antisocial personality disorder and subsequent crime.

In general, drug disorder, uncomplicated by other disorders, was inversely related to violent crime. Our findings for the specific drug disorder profiles were quite interesting. Researchers have found it difficult to establish the connection between marijuana and crime because marijuana is often used in conjunction with other drugs (Wish and Johnson 1986). We found, however, that when marijuana was the only drug used, it had no correlation with violent crime. The relation between opiate use and violence has been debated (Wish and Johnson 1986). We found that, after controlling for other variables, pure opiate disorder lessened the likelihood of violent crime arrest. Our findings concerning polydrug use were also intriguing. Drug–crime researchers have consistently found that the more drugs used (or the greater the amount), the greater the criminal involvement (Chaiken and Chaiken 1982; Wish et al. 1985). In contrast, we found that, within the multivariate context, polydrug disorder did not predict violent crime arrests.

It is also important to note that the "days available" variable was critical to the final model. Thus, this study confirms the importance of including variables that control for the availability to commit crimes. Although this would seem an obvious point, researchers often neglect to include this control variable.

RECOMMENDATIONS FOR RESEARCH

These findings suggest several directions for future research. First, these data were collected before the cocaine epidemic. Cocaine is thought to have a unique relation to criminal, possibly violent, behavior. Further work is needed to expand our knowledge of cocaine addiction, co-occurring psychopathology, and crime.

Second, official records are a limited, albeit convenient, indicator of violence. Thus, our models may be more predictive of drug–psychopathology–violence interrelations among failed criminals (those who are caught) than among the universe of offenders. Future researchers should attempt to use a multi-indicator and cross-validational approach to measuring crime.

Third, further research is needed to extend our findings on racial and ethnic differences.

Fourth, our sample, although fairly large, was not large enough to explore the array of drug-use disorders. For example, although we were able to examine the effect of pure opiate-use disorder on violent crime, the sample was too small to explore barbiturate- or amphetamine-use disorders. Large samples, although expensive, are needed to document correlations between the specific drug-use profiles, psychopathological profiles, and crime.

Finally, future research should include both measures of use at the time of the crime and measures of disorder. This will help distinguish between the effects of disorder vs. the effects of drug intoxication on criminality.

Notwithstanding the need for further refinements, our results painted a consistent picture of the violent criminal within the parameters we selected. Essentially, it is the young, poorly educated, antisocial detainee with a violent past who is most likely to be involved in violent crime. This study suggests that drug use per se is not predictive of arrest for violent crime; opiate use seems even to mitigate against it. On the other hand, many drug users are young, poorly educated, and antisocial and are likely to commit violent crime.

Unfortunately, the psychiatric literature indicates that the presence, type, and degree of psychopathology is at least as important as the category and frequency of drug use in determining treatment outcome with substance abusers. Generally speaking, psychopathology is associated with poorer treatment outcome for drug abuse. In particular, antisocial personality disorder bodes poorly for treatment success among drug users. Thus, the very drug users who are at risk for violent behavior are those most recalcitrant to treatment.

CONCLUSION

In sum, this research indicates the importance of controlling for co-occurring psychopathology, especially antisocial personality disorder, when examining relations between drugs and violence. Many drug users also have antisocial personality disorder. Although pure drug disorder is not predictive of violence, drug-disordered detainees who also meet criteria for antisocial personality disorder are particularly at risk for committing violent crime.

We must refine our knowledge concerning the violent propensities of the different diagnostic profiles. Ultimately, this information can be used probabilistically, for example, to make probation, parole, and diversion (treatment) decisions. In this way, we may balance our need to provide treatment for the offender with our obligation to protect the safety and welfare of the public.

REFERENCES

Abram, K.M. The effect of co-occurring disorders on criminal careers: Interaction of antisocial personality, alcoholism, and drug disorders. *Int J Law Psychiatry* 12:133-148, 1989.

Abram, K.M., and Teplin, L.A. Co-occurring disorders among mentally ill jail detainees: Implications for public policy. Submitted for publication.

Anthony, J.C.; Folstein, M.; Romanoski, A.J.; et al. Comparison of the lay Diagnostic Interview Schedule and a standardized psychiatric diagnosis. *Arch Gen Psychiatry* 42:667-675, 1985.

Bergman, H.C., and Harris, M. Substance abuse among young adult chronic patients. *Psychosoc Rehab J* 9:49-54, 1985.

Black, T., and Spinks, P. Predicting outcomes of mentally disordered and dangerous offenders. In: Farrington, D.P., and Tarling, R., eds. *Prediction in Criminology*. New York: State University of New York Press, 1985. pp. 174-192.

Blackburn, R. Patterns of personality deviation among violent offenders. *Br J Criminol* 26(3):254-269, 1986.

Blumstein, A., and Cohen, J. Estimation of individual crime rates from arrest records. *J Crim Law Criminol* 70(4):561-585, 1979.

Blumstein, A.; Cohen, J.; Roth, J.; and Visher, C., eds. Methodological issues in criminal career research. In: *Criminal Careers and "Career Criminals."* Vol. I. Washington, DC: National Academy Press, 1986. pp. 97-108.

Boyd, J.H.; Burke, J.D.; Gruenberg, E.; Holzer, C.E.; Rae, D.S.; George, L.K.; Karno, M.; Stoltzman, R.; McEvoy, L.; and Nestadt, G. Exclusion criteria of DSM-III. A study of co-occurrence of hierarchy-free syndromes. *Arch Gen Psychiatry* 41:983-989, 1984.

Burke, J.D. Diagnostic categorization by the Diagnostic Interview Schedule (DIS): A comparison with other methods of assessment. In Barrett, J., and Rose, R., eds. *Mental Disorders in the Community*. New York: Guilford Press, 1986. pp. 255-285.

Chaiken, J.M., and Chaiken, M.R. *Varieties of Criminal Behavior. Summary and Policy Implications*. Santa Monica, CA: Rand Corporation, 1982.

Cohen, J., and Cohen, P. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. 2d ed. Hillsdale, NJ: Lawrence Erlbaum Associates, 1983.

Dembo, R.; Washburn, M.; Wish, E.D.; Schmeidler, J.; Getreu, A.; Berry, E.; Williams, L.; and Blount, W.R. Further examination of the association between heavy marijuana use and crime among youths entering a juvenile detention center. *J Psychoactive Drugs* 19(4):361-373, 1987.

Durbin, J.R.; Pasewark, R.A.; and Albers, D. Criminality and mental illness: A study of arrest rates in a rural state. *Am J Psychiatry* 134(1):80-83, 1977.

Gandossy, R.P.; Williams, J.R.; Cohen, J.; and Harwood, H.J. *Drugs and Crime: A Survey and Analysis of the Literature*. Washington, DC: National Institute of Justice, 1980.

Giovannoni, J.M., and Gurel, L. Socially disruptive behavior of ex-mental patients. *Arch Gen Psychiatry* 17:146-153, 1967.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 15(4):493-506, 1985.

Gropper, B. *Probing the Links Between Drugs and Crime*. National Institute of Justice Brief. Washington, DC: U.S. Department of Justice, 1985.

Harry, B., and Steadman, H.J. Arrest rates of patients treated at a community mental health center. *Hosp Community Psychiatry* 39(8):862-866, 1988.

Hedlund, J.L.; Sletten, I.W.; Altman, H.; and Evenson, R.C. Prediction of patients who are dangerous to others. *J Clin Psychol* 29:443-447, 1973.

Helzer, J.E.; Robins, L.N.; McEvoy, L.T.; Spitznagel, E.L.; Stoltzman, R.K.; Farmer, A.; and Brockington, I.F. A comparison of clinical and Diagnostic Interview Schedule diagnoses. *Arch Gen Psychiatry* 42:657-666, 1985.

Holcomb, W.R., and Ahr, P.R. Arrest rates among young adult psychiatric patients treated in inpatient and outpatient settings. *Hosp Community Psychiatry* 39(1):52-57, 1988.

Illinois Criminal Justice Information Authority. *Trends and Issues 89: Criminal and Juvenile Justice in Illinois*. Chicago: the Authority, 1989. p. 146.

Inciardi, J.A., ed. *The Drugs-Crime Connection*. Beverly Hills, CA: Sage, 1981.

Jamieson, K.M., and Flanagan, T.J., eds. *Sourcebook of Criminal Justice Statistics, 1988*. U.S. Department of Justice, Bureau of Justice Statistics. Washington, DC: U.S. Govt. Print. Off., 1989.

Khantzian, E.J., and Treece, C. DSM-III psychiatric diagnosis of narcotic addicts. *Arch Gen Psychiatry* 42(11):1067-1071, 1985.

Klassen, D., and O'Connor, W.A. A prospective study of predictors of violence in adult male mental health admissions. *Law and Human Behavior* 12(2):143-158, 1988a.

Klassen, D., and O'Connor, W.A. Crime, inpatient admissions and violence among male mental patients. *Int J Law Psychiatry* 11:305-312, 1988b.

Langevin, R.; Ben-Aron, M; Wortzman, G.; Dickey, R.; and Handy, L. Brain damage, diagnosis, and substance abuse among violent offenders. *Behav Sci Law* 5(1):77-94, 1987.

Ling, W.; Holmes, E.D.; Post, G.R.; and Litaker, M.B. A systematic psychiatric study of heroin addicts. In: *Proceedings of the Fifth National Conference on Methadone Treatment*. New York: National Association for the Prevention of Addiction to Narcotics, 1973. pp. 429-432.

McBride, D. Drugs and violence. In: Inciardi, J.A., ed. *The Drugs–Crime Connection*. Beverly Hills, CA: Sage, 1981. pp. 105-123.

McBride, D., and McCoy, C.B. Crime and drug-using behavior: An areal analysis. *Criminology* 19(2):281-302, 1981.

McLellan, A.T.; Druley, K.A.; and Carson, J.E. Evaluation of substance abuse problems in a psychiatric hospital. *J Clin Psychiatry* 39:425-430, 1978.

Monahan, J.M., and Steadman, H.S. Crime and mental disorder: An epidemiological approach. In: Morris N., and Tonry, M., eds. *Crime and Justice: An Annual Review of Research*. Chicago: University of Chicago Press, 1983. pp. 145-189.

Nurco, D.N.; Ball, J.C.; Shaffer, J.W.; and Hanlon, T.E. The criminality of narcotic addicts. *J Nerv Ment Dis* 173:94-102, 1985.

O'Farrell, T.J.; Connors, G.J.; and Upper, D. Addictive behaviors among hospitalized psychiatric patients. *Addict Behav* 8:329-333, 1984.

Rappeport, J.R., and Lassen G. Dangerousness—arrest rate comparisons of discharged patients and the general population. *Am J Psychiatry* 121:776-783, 1965.

Robins, L.N. *DSM–III/DIS–IIIA Diagnostic Programs*. SAS computer program. St. Louis, MO: Washington University, 1985a.

Robins, L.N. Epidemiology: Reflections on testing the validity of psychiatric interviews. *Arch Gen Psychiatry* 9:918-924, 1985b.

Robins, L.N.; Helzer, J.; Croughan, J.; and Ratcliff, K. National Institute of Mental Health Diagnostic Interview Schedule: Its history, characteristics and validity. *Arch Gen Psychiatry* 38:381-389, 1981b.

Robins, L.N.; Helzer, J.; Croughan, J.; Williams, J.; and Spitzer, R. NIMH Diagnostic Interview Schedule: Version III. Rockville, MD: National Institute of Mental Health, Division of Biometry and Epidemiology, 1981a.

Robins, L.N.; Helzer, J.E.; Ratcliff, K.; and Seyfried, W. Validity of the Diagnostic Interview Schedule, Version II: DSM–III diagnoses. *Psychol Med* 12:855-870, 1982.

Rounsaville, B.J.; Kosten, T.R.; Weissman, M.M.; and Kleber, H.D. Prognostic significance of psychopathology in treated opiate addicts. *Arch Gen Psychiatry* 43:739-745, 1986.

Rounsaville, B.J.; Weissman, M.M.; Kleber, H.; and Wilber, C. Heterogeneity of psychiatric diagnosis in treated opiate addicts. *Arch Gen Psychiatry* 39(2):161-166, 1982.

Shah, S. Dangerousness: A paradigm for exploring some issues in law and psychology. *Am Psychol* 33:224-238, 1978.

Sosowsky, L. Crime and violence among mental patients reconsidered in view of the new legal relationship between the state and the mentally ill. *Am J Psychiatry* 135(1):33-42, 1978.

Steadman, H.J.; Cocozza, J.J.; and Melick, M.E. Explaining the increased arrest rate among mental patients: The changing clientele of state hospitals. *Am J Psychiatry* 135(7):816-820, 1978.

Swett, C., Jr. History of street drug use: Relationship to diagnosis and violent behavior among admissions to a prison hospital. *J Prison Jail Health* 5(2):94-101, 1985.

Test, M.A.; Knoedler, W.H.; Allness, D.J.; and Burke, S.S. Characteristics of young adults with schizophrenic disorders treated in the community. *Hosp Community Psychiatry* 36:853-858, 1985.

U.S. Department of Justice, Bureau of Justice Statistics. *Census of Local Jails, 1988*. Washington, DC: U.S. Govt. Print. Off., in press.

Weisman, C.P.; Anglin, M.D.; and Fischer, D.G. Differential MMPI profiles of white and Chicano narcotic addicts. Unpublished manuscript.

Wish, E.D.; Brady, E.; and Cuadrado, M. Drug use and crime in arrestees in Manhattan. Presented at poster session of the 47th Annual Scientific Meeting of the Committee on Problems of Drug Dependence, Baltimore, June 11, 1985.

Wish, E.D., and Johnson, B.D. The impact of substance abuse on criminal careers. In: Blumstein, A; Cohen, J.; Roth, J.; and Visher, C., eds. *Criminal Careers and "Career Criminals."* Washington, DC: National Academy Press, 1986. pp. 52-88.

Woody, G.E.; McLellan, T.; Luborsky, L.; and O'Brien, C.P. Sociopathy and psychotherapy outcome. *Arch Gen Psychiatry* 42(11):1081-1086, 1985.

Zitrin, A.; Hardesty, A.S.; Burdock, I.E.; and Drossman, A.K. Crime and violence among mental patients. *Am J Psychiatry* 133(2):142-149, 1976.

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Who's Right: Different Outcomes When Police and Scientists View the Same Set of Homicide Events, New York City, 1988

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INTRODUCTION

There is a surface logic in the phrase "Ask a cop." If the reality of a criminal event is to be known, it makes sense to go to those closest to the event, the police—especially when the other actors are absent or uncooperative. On a broader plain, the police are logically the main source of data for a quantitative depiction of crime in America. Although we recognize that criminologists necessarily rely on police-supplied data, this chapter questions that logic.

It seems clear that the police do not have a vested interest in research questions per se. For obvious reasons, the forensic elements in a criminal event are of fundamental importance to the police. By highlighting quantifiable differences between two separate depictions of the same set of homicide events, the research reported here supports the view that the police rarely if ever record information about criminal events in a way that would be useful to a sociologist or criminologist.

This is not a one-way street. From the perspective of the police, there is no cogent reason why crime data should be recorded in a way that would be useful to a sociologist or criminologist. The police might argue correctly that criminologically useful data should be the concern of criminologists. Balancing the needs of the scientist with the organizational prerogatives of the police is not a new issue in criminology nor is it under discussion here. This discussion is about how different perspectives are likely to produce different descriptions of reality, how each side brings to the matter under

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study their own agenda, and how a different picture of "what happened" will emerge depending upon whose information is analyzed.

The research project was charged, in part, with testing the feasibility of including questions that address a specific scientific concern (drug relatedness of homicide) using methodology not unlike that of the Uniform Crime Reports (UCR). The "Project" section below describes in detail how the same events were recorded in two discrete sets of data. Briefly, the first set contains "cold" data reported by the police on standardized forms. In this data set, many replies to specific queries about the drug relatedness of the homicide were often ambiguous, contradictory, or raised as many questions as they answered. In an effort to insure responses that were "usable" in a scientific way, the police officers who had prepared the first set of reports were subsequently interviewed. The reports were emended, and a second data set was prepared.

While the overriding purpose of the research project is to discover "what happened," vis-à-vis homicide and drugs, this analysis suggests that the perception of reality inferred from police-reported crime data differs from the perception of the same set of events by social scientists. (The first reports of the larger study can be found in Goldstein et al. 1989; Brownstein et al. 1989; Ryan et al 1989.) The analysis looks not to validate either method of collecting data. It merely demonstrates that differences do exist. A comparison was made of the same set of homicide events when recorded by the police with a like process that included researcher participation in the form of "onsite" interviews. Serious differences were identified of which the social scientist should be aware when using data for research purposes that have been originally collected for other purposes—in this case, by the police primarily for investigative purposes.

DRUGS AND HOMICIDE: NEED FOR UNIFORM DEFINITIONS

Homicide has been studied extensively. A decade of field work (Goldstein 1979; Johnson et al. 1985; Inciardi 1986) confirms reports in the scientific literature and popular media about the ubiquitous presence of violence in the drug scene. For example, an ultraconservative estimate that 2,000 of the Nation's 23,044 homicides in 1980 resulted from the use of drugs was translated into a loss of about 70,000 life years (Goldstein and Hunt 1984). A 1986 prison survey found that 28.3 percent of incarcerated murderers were under the influence of a drug (excepting alcohol) at the time they killed (Innes 1988). The Washington, DC, police reported that 57 percent of that city's homicides in 1987 were drug related. An estimated 60 percent of all homicides occurring in Queens, New York City, in 1988 were drug related, compared with 38 percent for the city as a whole (James 1988).

The only consistency in reports such as these is the lack of it; first, in the definitions of what constitutes a "drug-related" homicide, and second in the methodologies used in collecting data on which the estimates are based. According to one national daily, the Federal Bureau of Investigation (FBI) surveyed 1,161 law enforcement chiefs who "think" drugs are involved in 21 percent of all killings, and that, in cities of over 100,000 people, drugs play a part in "40 or even 95 percent" of homicide events (*USA Today* 1987).

The operative term "think" and the range described by "or even" are frequently found in reports of the role drugs play in crime, particularly homicides. Granted, the police sources cited by *USA Today* do not directly supply data to the UCR, but they do have a part in defining what their agencies report. The wide-ranging estimates publicly announced by the police chiefs draw attention to the effects of using different criteria to define the issue, and how the data bases that rely on the police for supporting data may be critically affected.

Data used in criminological research are often based on the UCR and the Supplemental Homicide Report (SHR). Although these are the most visible sources of crime data in the country, inherent shortcomings in their collection processes make their usefulness problematic for scientific research (Loftin 1986; Cook 1985). Gropper saw a critical need for data that would "help provide sound informational bases for the guidance of public policies directed toward the prevention and control of drug-related crime" (Gropper 1985, p. 3; Woodworth 1985, p. 4).

The development of an operational Incident-Based Reporting (IBR) system for UCR data collection is a major step in this direction. It offers the potential for a national data base that would include detailed and specific information about drug involvement in criminal events. Drug-relatedness information would be available at a level of detail heretofore unavailable (Brownstein et al. 1989; Poggio et al. 1988). Loftin's (1986) work in Baltimore and the work reported here are examples of the attention the scientific community currently pays this issue.

That prior to the redesign of the UCR (Schlesinger 1985) the subject matter of drugs was not specified in major national data collection efforts is a major concern to those who study crime and drugs. The full implementation of the IBR and the redesign of the National Crime Survey bodes well for researchers. An anticipated benefit of the redesign is the availability of "data on crimes for which data traditionally have been lacking, namely drug-related offenses, sex crimes, family violence and child abuse" (Schlesinger 1985, p. 5).

At present, broad reporting categories and the omission of drug-related items make it virtually impossible to determine, for example, whether the

offender or victim was a drug user, a trafficker, or other actor in the drug distribution system; whether the pharmacological condition of either victim or offender was related to the event; or if the underlying motive or circumstance was influenced by the economic demands of personal drug-use habits. Goldstein and Brownstein (1987), Shellow (1976), and Weismann (1982) discuss the need for this kind of data. Police reports to the UCR and SHR data bases do not provide sufficient information for analyses at these levels. Despite the fact that local officials may have much information concerning the circumstances of a homicide or any other crime, they condense it into a brief statement that is then used by another reporting level, usually the State agency, to code the event within UCR or SHR definitions (Loftin 1986).

In many cases, researchers have turned to alternative data sources. For example, in a controlled study of the synergistic effects of drugs and alcohol, Langevin et al. (1982) relied on psychiatric assessment records. A study over 12 years of the drug and alcohol habits of drug addicts at Lennox Hill Hospital in New York City was based on data from treatment records (Vaillant 1971). In reporting a study of 71 convicted murderers, Wilcox (1986) notes that previous work on characteristics of murders is "anecdotal or described groups in mental hospitals or clinics," and generally used "computer compiled state arrest records, or prison population" files (Wilcox 1986, p. 48). He relied on personal treatment records supplemented by court, police, district attorney, morgue, and legal defense sources. Ellingwood (1971) used the case history method to study amphetamine abuse and homicide. A review by Zahn and Bencivengo (1974) of drug-using and drug-nonusing victims of homicide was based on autopsy reports. In all, these studies relied on other than information routinely supplied by the police, resorting instead to readily available data sources. Temporally, jurisdictionally, and data source specific, the generalizability of such studies remains problematical.

Nevertheless, other locale-specific studies (Johnson 1989; Abel 1987; Graham 1987; Gary 1986; Goldstein 1986; Goodman et al. 1986; Felson and Steadman 1983; Montefore and Spitz 1975) and reports of drug use and crime in the press (Gordon 1989; Martz et al. 1989; Molotsky 1988; Wolff 1988) suggest a strong association between drug use and criminal violence. However, these studies also suffer from a lack of consistency in operational definitions and theoretical conceptualizations. In tandem, the insufficiencies of the national level data bases and poor standardization of concepts, definitions, and empirical indicators among studies using other data, hamper efforts to do comparative research over time and among jurisdictions.

The quality of research data depends heavily on the quality of the methods used to collect them. The problems noted above are not limited to crime data. For example, Hopkins et al. (1989) compared the reported incidence of cirrhosis of the liver attributed to alcohol as the cause of death in Oregon, a State that employs a followup "querying" procedure, with the

reported incidence of those States that do not query. Although the State's per capita consumption of alcohol mirrors that of the Nation, alcohol-attributed liver disease as a cause of death in Oregon was about twice that of the Nation. Hopkins and colleagues conclude that "for mortality statistics to be of value as a national surveillance mechanism, it is important that data be collected in a standard and consistent manner" (Hopkins et al. 1989, p. 574). A similar argument could be made regarding crime statistics.

THE PROJECT

As part of an effort to understand better how drugs and violence are related, a series of research projects were designed that are theoretically based on a tripartite conceptualization of the drugs–homicide nexus (Goldstein 1985). One of the projects (Goldstein and Brownstein 1987) found that police departments did not record or maintain information about the drug relatedness of homicides unless that information was directly relevant to their investigation. Several law enforcement officials who participated in the study suggested that detailed data about the drug relatedness of homicides could be obtained only if these data were collected on a continuing basis, concurrent with police investigations. This suggestion led to the development of the project discussed here; indeed, it was incorporated in the research design as one of the project's objectives.

Tripartite Conceptual Framework

The theoretical underpinnings of the research posit that drugs and violence are related in three different ways: psychopharmacologically, economic compulsively, and systemically.

Psychopharmacological. The psychopharmacological component suggests that some people may act out in a violent fashion or become excitable or irrational as a result of ingesting drugs. Drugs are also used to reduce nervousness or boost courage and thereby facilitate a criminal act. Psychopharmacological violence may also result from the irritability associated with withdrawal symptoms. It may involve substance use by either victim or perpetrator, and, for victims, a drug-induced physical condition may invite criminal victimization.

Economic Compulsive. The economic compulsive component refers to economic crimes committed to finance personal drug-use habits. Economic compulsive crimes are either inherently violent, as in an armed robbery, or the violence results from an unintended, extraneous factor such as the perpetrator's nervousness, an unanticipated reaction by the victim, the intercession of bystanders, or the presence or absence of weapons carried by the victim or perpetrator. Perpetrator motivation is the key to an economic compulsive classification. Included in this category would be the crimes of

the stereotypical drug "fiend" who preys on the weak and innocent to support a drug-use habit.

Systemic. The systemic component refers to the normally aggressive patterns of interaction within the drug use and distribution system that are typical of working or doing business in a black market. A noninclusive list of systemic violence includes territorial disputes between rival dealers, assaults, and homicides committed to enforce normative codes within a particular drug-dealing operation, robberies of drug dealers, executions of police informants, retaliations for selling adulterated or bogus drugs, and assaults and homicides to collect drug-related debts. Systemic violence may also occur between users during disputes over drugs or drug paraphernalia.

The Data Collection Process

Police Organization—Geographic Selection of Sample. The New York City Police Department (NYPD) divides the city into patrol zones or (mainly an idiomatic distinction) detective divisions. Each zone includes between three and six precincts. One zone was selected in each of four boroughs (counties) in the city. Of the NYPD's 75 precincts, 17 are in the selected zones.

Rather than randomly select homicides for study (and then "chase down" the investigating detective), it was decided to use the existing administrative structure of the department with hierarchical controls that would assure a high degree of compliance and facilitate training and distribution of materials. The selection of one zone in each borough allowed a representative cross section, areas with both high and low homicide rates and a diversity of social and ethnic characteristics, to be included in the sample. Except for a higher concentration of lower socioeconomic-status (SES) areas in the Brooklyn precincts, the selected areas represented a broad mix of demographic and SES characteristics. The project's timeframe was 8 months—March 1 to October 31, 1988. Data were collected on 414 homicide events, involving 491 perpetrators and 436 victims. In 1988, 1,896 homicides occurred in New York City.

NYPD Cooperation—Investigative Protocol. Throughout New York City, all detectives are required to follow the same procedures in recording the progress of a homicide investigation. They routinely use a checklist of evidence secured, forms used, notifications, interviews conducted, and the like. The data collection form was included as part of this "routine" paper work in the selected zones. Having a research instrument included in an investigator's "checklist" could not have been accomplished without the full support and endorsement of the study by the NYPD.

Detective Squad Commanders were allowed a fair degree of autonomy in having the forms completed. Some chose to complete them personally,

while others delegated the task to their sergeants. A number of sergeants passed the work to the detectives. The project director met frequently with police personnel, reviewing each case to obtain as much information as was possible and to clarify information already submitted.

It should be noted that the number and unpredictable frequency of homicides handled each year by any NYPD detective squad does not allow the assignment of detectives to one case exclusively. For example, in Brooklyn's 75th Precinct, 1 sergeant and a team of 4 or 5 detectives investigated 100 homicides in 1988, a workload not matched by most police departments.

The logistical problems of the 75th Precinct are mirrored by the other precincts studied, but for reasons other than number of cases. If a precinct enjoys a relatively low homicide rate, detectives are assigned to investigate other kinds of crime or the number of detectives assigned to the squad is proportionally less than in the busier squads. It is not unusual for a team of detectives (the only investigators working in the precinct at the time) to be told to put a homicide investigation on hold and redirect their energies to a missing person case or a just-reported bias incident. To the credit of those detectives participating in the project, work quality did not appear to suffer at the expense of numbers or the broad and diverse range of matters investigated.

The work load and diverse assignments affected the submission of data in one important way. The NYPD detectives always work in groups or "teams" of two or more. One member of the team is "assigned" the case and is thus responsible for all the related paper work. At times, some piece of information is not secured by the assigned detective, and if it is to be recorded on paper, the detective must query the other team members. For this reason, many of the reports submitted to the project were in fact a "team" effort, a collaboration.

A Problem Yields Another Research Question. The methodology included a followup interview that was originally designed to respond to requests for technical assistance. Examination of the early returns, however, indicated a number of incomplete responses and misunderstandings of the tripartite conceptualization. These early reports were gathered much the way the department gathers the crime data it reports to the UCR. Collecting these data would, standing alone, comprise a data base not unlike the UCR.

A valuable opportunity to expand the project's scope lay hidden in what was first seen as a problem. It was decided to leave the initial reports intact and to expand the purpose of the followup interview to gather another set of data based on participant interviews. If the original reports were left intact and if data describing the identical set of homicides could be gathered

in the interview process, a comparative analysis of two distinct sets of data regarding the same subject matter could be made.

Data Analysis

The data was arranged bilaterally in two distinct sets of data. "File I" or "Police Data" contains information as it was first supplied by the police reporting on the homicide events. This method was akin to the way information was fed to the UCR and SHR. "File II" or "Scientist Data" contains information gathered in followup interviews by project staff.

In both cases, an identical set of homicides were examined, but the analysis should not be confused with a time series methodology. Rather, it is a two-pronged analysis that simultaneously examined data from two different sources. The data in File I came from the police when left to their own devices; File II data were provided by a social scientist who interviewed the police. For this reason, the data in each set are arrayed using identical variables. The only things that changed from one data set to the other were the values in any particular cell.

By creating separate sets of data, it was possible to examine whether or not reconstruction of the subject matter, the drug-relatedness of homicide, would be significantly different when the police data were left unmolested from when the data were collected by researchers. In the analysis, both data sets were treated alike. What was done to one, e.g., classification and coding, was done to the other.

Classification and Coding. The data collection form, among other items, asks the reporting detective whether or not the event can be classified as drug related, as not drug related, or if there is simply insufficient evidence to make the determination. The police were also asked to indicate which of the tripartite framework categories best described the event. Allowance was made for multidimensional events in which more than one categorization best described what happened.

A response to the "Drug Related or Not" question is a straightforward "Yes" or "No" type. Conversely, classification of cases according to the theoretical model is subject to broad interpretation, especially if the event includes more than one category of drug relatedness.

For example, in a sex-related event in which the victim was high on drugs and the offender was a trafficker, the person coding the event has to determine which element in the crime was the major contributor; in this case, whether the victim's drug use (psychopharmacological category) or the perpetrator's connection to the drug distribution system (systemic category) should serve as a basis for classification. The operational definitions of the classification categories are conservative—evidence of a drug-related

interaction must clearly be part of the event. This posture precludes classification of cases based on a participant's status, as a drug dealer, or prior arrest record. If, for example, the coder determined that the event was primarily a sex-related crime, that neither the victim's drug use nor the perpetrator's occupation played a significant role, the case would be classified as not drug related. The coding of events by the police within the tripartite framework was not considered definitive for analytical purposes. The File I data is a subset of the larger project and is used for comparative assessments of data sources. Assessment of the drug relatedness of homicides is made using only the File II data.

The actual coding of cases (File II) involved two members of the research team. First, each case was coded by the researcher who interviewed the police. Then all completed forms were independently reviewed by a second researcher. The two met and reviewed all the cases to arrive at an appropriate classification. In cases on which the researchers disagreed, followup with detectives clarified the incidents and achieved consensus.

Differences Between the Data Sets. A caveat exists for the following tables that show different "n's" in places where the reader might expect them to be the same. Table 1, for instance, contains 49 events in File I and 59 events in File II. This is not a typographical error.

Recall that the data for File I were coded as they were reported. The data were not examined for internal consistency nor were obvious contradictions questioned. The national level data bases have no mechanism by which to recover missing data or to question inconsistency, and the File I data were meant to emulate that process. (The SHR is an attempt to emend the UCR's homicide file, but it too is not a complete record.) When the police were interviewed in the process that produced the File II data, they gave information that differed from their original assessment of the event. Simply put, the answers changed. Because of this, the frequencies for a given variable could differ from the first data set to the second, from File I to File II. These differences were the reason the analysis was undertaken.

The data collection form included 70 items with a response required for 288 items of information. The sheer number of responses served as a built-in "lie scale." For example, a "Yes" response to the item "Victim was high on drugs at the time of the event" should be repeated in the "Is this event drug related?" item, and a psychopharmacological classification would be expected. If the respective items contradict each other, either the fact that the victim was high did not contribute to the death or an error was made. In the police-supplied data, internal consistency was a major problem area. It was not a problem in the File II data for the simple reason that errors of this type were questioned and corrected in the interview process.

Tripartite Dimensions. The foregoing description of how cases were coded leaves room to speculate that perhaps drug-related elements might be overlooked in the information retrieval stage. In the example of the sex-related, thus not drug-related event, for instance, it might appear that the datum of victim drug use or the perpetrator's connection to the drug marketplace would not be retrieved, because it would be hidden by the primary classification. This was not the case.

The survey instrument included a category designed to capture any facts that were, standing alone, not sufficient evidence from which a primary classification could be made but that did suggest that the event is part of the drug scene. In most cases, a systemic event would have a systemic dimension, a psychopharmacological one a like dimension, and so on. The labels corresponded to the tripartite classification categories.

In certain cases, a creditable piece of drug-related information might be known that would be lost if the dimension category were not available. The dimension variable allowed a case primarily classified in one category to contain a dimension describing another category of drug-relatedness. The sex- but not drug-related example would be primarily classified "Not Drug-Related" with both "Psychopharmacological" (victim using) and "Systemic" (perpetrator is trafficker) dimensions.

The reporting framework provided the background necessary to a complete reading of the event. It captures the "transactional risks" that Zahn and Bencivengo (1974) said make up such a large part of the subculture of violence.

Internal Inconsistency. "Internal inconsistency" refers to responses within a case that appeared to contradict other responses in the same case, e.g., an item indicating that the victim used drugs would be countered by an indication that no drugs were involved in the event. The cases in table 1 were selected from the respective data sets as having a "Yes" response that either victim or perpetrator were high or irrational due to the ingestion of drugs or alcohol. Table 1 demonstrates the inconsistency problem.

The Police Data Set (File I) identified 49 events in this variable. Table 1 shows the classification of these 49 events according to the tripartite conceptualization and the responses to the drug-related question. The police classified only nine events as psychopharmacological. Indeed, for these 49 killings in which the data indicate that the use of drugs was present, the File I data identified only 24 as "Drug Related"; the "Not Classified" case in File I is a reporting error. The question of consistency in this example arises from an intuitive sense that a larger number of cases in which an actor was high should be called drug related and classified as psychopharmacological.

TABLE 1. *Selected cases: "High or irrational due to drugs or alcohol"*

	File I n=49	File II n=59
Is This Event Drug Related?		
Not Drug Related	20 (41%)	6 (10%)
Do Not Know If Drug Related	4 (8%)	0
Drug Related	25 (51%)	53 (90%)
Classification		
Psychopharmacological	9	29
Economic Compulsive	8	0
Systemic	3	9
Multidimensional	1	15
Not Classified	3	0

Reference to this type of inconsistency as a "problem" is done nonjudgmentally. The discussion below suggests that the police may indeed have compelling reasons for reporting information in a particular way and further that an understanding of "what happened" was no less valid because police data described the event than if the description was based on the "scientific" data. This entire analysis is concerned more with the fact that the different descriptions are possible than with the validity of either.

An examination of the File II side of table 1 emphasizes the power (and quite different outcome) when the scientist gathers data firsthand. The File II data were more consistent (at least to a social scientist). File I data identified 10 fewer participants as high on drugs than did the File II data.

Parenthetically, the different n for each file might be confusing. At first, one might ask, "How many participants were high, 49 or 59?" and "How can the same table show two n's?" The caveat above explains the differences. In each table, the data are arrayed to highlight the differences between the two sets of data.

Table 1 is a matrix of the "High on Drugs" variable by the "Is This Case Drug Related" and "Classification" variables. The values for each variable are presented separately for each data set. It is important to realize that the different depictions of "what happened" regarding the "Being High on Drugs" variable are equally true depending upon which source of data is used.

For instance, the police data indicated that of 49 events in which someone was high on drugs, 25 were drug related (51 percent), while the scientist's data indicated 53 of 59 such events were drug related (90 percent). Such observations make it easier to understand how police chiefs can estimate that 40 to 95 percent of homicides are drug related (*USA Today* 1987).

Returning to the consistency question, note in table 1 that the File I data indicated that 9 of the 25 drug-related events were psychopharmacological. These 49 cases were selected because at least one of the actors was high on drugs or alcohol. Even a cursory examination would question why only 36 percent (9 of 25) of the "high on drugs" were recorded in the "using" classification—what happened in the other events?

In what is seemingly a more consistent fashion, the File II data (table 1) indicated, first, that more of the selected cases were drug related (File I=51 percent; File II=90). These data then stated that of the 53 drug-related events of this type, 55 percent (29 of 53) were clearly psychopharmacological and another 28 percent (15 of 53) contained more than one category and are multidimensional. By recording them in the psychopharmacological or multidimensional categories, the File II data accounted for 83 percent of those events in which one of the actors was high on drugs. Comparatively, when these two categories (psychopharmacological and multidimensional) were combined for the File I data, less than half as many were similarly accounted for. Without speaking to the validity of either data set, the differences are remarkable.

More Differences. From observations such as this, it becomes apparent that the police, when working independently, might unintentionally paint quite a different picture of the drug relatedness of homicides, than when interacting with a researcher. When the File II data were gathered, nothing was changed that had not been agreed to by the police themselves. What might have changed from the first data set to the next was the police perception of the importance of their replies. Once put on notice that their work would be closely reviewed, most of the detectives interviewed reflected on their earlier responses and took time enough to consider items in the survey instrument relative to each other. They acknowledged the contradictions, in many cases, as a function of responding to what they saw as isolated questions. That the responses would be reviewed came as a surprise. It was perhaps, a "Hawthorne effect" at work.

A question on the collection form, "Is this event drug related?" sheds additional light on the issue of differences between data sets. Table 2 is simply the response frequency in a single variable that asked: "Is this case drug related?" Table 2 is simple but telling. It includes all cases.

About twice as many File I cases were in the "Do Not Know" category or were left blank as in the File II data. "Do Not Know" is a legitimate

TABLE 2. ***"Is this case drug related?"***

	File I n=414	File II n=414
Yes	168 (40.6%)	218 (52.7%)
No	165 (39.8%)	155 (37.4%)
Do Not Know	68 (16.4%)	41 (9.9%)
No Reply	13 (3.2%)	0 (0.0%)

response, but could the presence of an interviewer legitimately alter responses in half of a particular category? Possibly, the interview process forced illegitimate responses not based on the available facts. Most of the decreases in the "Do Not Know" category in File I were changes to the drug-related category in File II. The major difference between the data is the 40.8 percent vs. 52.7 percent assessment of the "Yes," this is drug-related, category.

It would appear a fairly straightforward matter to ask the detective investigating a homicide what drug played a primary role in the event, yet it seems that drugs were not a prime consideration to the investigator. Knowledge of what drug was involved apparently had value more for the researcher than for the detective seeking forensic evidence.

The responses in the police data set to the question of what type of drug was involved in the event appear to be haphazardly made (table 3). This was probably a function of replying on an impersonal form and being left to one's own devices, for when asked the same questions in person, the responses were certainly adequate. The note in table 3 helps to explain the "haphazard" surmise: If an event is classified as not drug related, why is a drug named as being involved?

The overreporting type of discrepancy shown in table 3 can be partly accounted for by considering the use of the "dimension" category described above. Using the same example of a sex-related but not drug-related event that also includes a drug-related dimension, it would be consistent to record a drug involved. This did occur. More often however, the discrepancy was confounded by omissions of the drug involved when the case was classified as drug related—not shown in the table 3 data (File I) are 86 cases identified as drug related in which no drug was named.

File I data in tables 2 and 3 show that although 168 events were said to be drug related, a drug was said to be involved in 187 events. This

TABLE 3. *Primary drug involved in drug-related events*

Drug Involved	File I n=187*	File II n=218
Cocaine	23 (12.3%)	48 (22.0%)
Crack	50 (26.7%)	118 (54.1%)
Alcohol	7 (3.7%)	21 (9.6%)
Marijuana	2 (1.1%)	7 (3.2%)
Heroin	3 (1.6%)	3 (1.4%)
Multiple Drugs	5 (2.7%)	18 (8.3%)
Unknown/No Reply	97 (51.9%)	3 (1.4%)

*There were 168 events recorded in File I as drug related (see table 2). Nineteen cases listed as "Not Drug Related" or "Unknown" in File I did, however, record a drug as being involved.

discrepancy is repeated in table 4 (File I) in which 177 events were recorded as being in one of the drug-related primary classifications defined by the tripartite conceptualization.

TABLE 4. *Tripartite conceptual framework—primary classification*

Classification	File I n=177*	File II n=218
Psychopharmacological	19 (10.7%)	31 (14.2%)
Economic Compulsive	50 (28.3%)	8 (3.7%)
Systemic	62 (35.0%)	162 (74.3%)
Multidimensional	16 (9.0%)	17 (7.8%)
Other Drug Related	30 (17.0%)	0

*There are only 168 events recorded in File I data as drug related. Some of the cases listed as "Not Drug Related" or "Unknown" do, however, record tripartite classifications.

The differences that appear in tables 3 and 4 further support the premise made above that a different depiction of "what happened" will be made dependent upon which data source is used.

The differences in table 4 between File I (35 percent) and File II (74.3 percent) systemic events is striking. Table 3 shows cocaine and crack as the primary drug in 29 percent of the drug-related cases in File I, but File II data indicated 76.1 percent involved cocaine and crack. Fully 51.9 percent

of the File I events recorded no drug. In File II, this was a manageable 3 percent.

At a time when the nation is mounting an all-out war on the distribution system that delivers cocaine and crack to our streets (Walton, unpublished), such disparate assessments of the role systemic violence plays in homicide would tend to muddy rather than clarify the issue. Further, the File I data in table 4 support the dope "fiend" myth in the share assigned to the economic compulsive category (28.3 percent). The File II data glaringly contradict the "fiend" inference with a reported 3.7 percent events in this category.

The variables shown in tables 1 through 4 contain verbiage, definitions, conceptualization, and purpose not normally part of the police lexicon. It is not that most police could not understand interpretive schema; most of the detectives involved in this research just were not interested. More than once they indicated a willingness to share information that had been routinely collected as part of the investigation, but had not been specifically requested. Equally often they demurred when asked to fit their knowledge into the tripartite conceptualization. Without having tested how this posture affected the data supplied, it would be conjectural to impute a rationale. Table 5 illustrates the differences in classification.

TABLE 5. *Selected differences combined*

FILE I			FILE II
Table 2	168	"Yes" Drug Related	218
Table 3	90	Drug Involved Named	215
Table 4	177	Drug-Related Classification	218

Plainly the respective constructs of these homicides are dramatically unequal, but it would be wrong to dismiss the inconsistencies in the File I data as lack of attention to detail or an occupationally based prejudice against research and paper work in general. More likely the differences are so easily told simply because the researcher is doing the telling.

In other words, the File II data were gathered by the people who designed the survey instrument. They know intimately what each category connotes, what the expected responses should be, and even that a particular response in one category should trigger a certain response in another. As the comparative review moved to matters more related to forensic issues, the difference between the two data files lessened.

The notable changes from the first data set in the "Circumstance" variable (table 6) are in the areas of "Other or Undetermined" and "Drug Transaction." Table 6 shows that the "Other" circumstances decreased from 110 in File I to 74 in File II. The lion's share of the changed responses went to the "Drug Transaction" category: File I=92 and File II=127. The increase to 127 events in the drug deal category is not as dramatic as first appears nor as are the differences noted in tables 1 to 4 (see table 5).

TABLE 6. *Events by circumstance*

Circumstance	File I n=414	File II n=414
Robbery	58 (14.0%)	70 (16.9%)
Other Crime Related	30 (7.3%)	16 (3.9%)
Dispute	121 (29.2%)	124 (29.9%)
Drug Transaction	92 (22.2%)	127 (30.7%)
Police Officer Killed	3 (.7%)	3 (.7%)
Other or Undetermined	110 (26.6%)	74 (17.9%)

The police make use of open-ended categories in a way that becomes a critical consideration in the interpretation stage of this kind of research. The changes in table 6 noted above and in table 7 below, reflect a broad use of "Other" categories. Throughout the collection form a category "Other" is provided for unanticipated elements. In every item labeled "Other," a "Specify" block is included. If "Other circumstance" is indicated, the "Specify" block asks that the circumstance be named.

Thirty-six times when the "Other, Specify_____" item was used in the circumstance variable, the available choices, robbery, dispute, etc., would have adequately covered the information provided by the police as "specified." Most often, more information than necessary was provided.

Expansion of the "Other" category was not limited to "Circumstance." As an example, the classification section provides for "Systemic" and "Other Drug Related," along with the other categories. For a case that was clearly systemic, detectives would leave the "Systemic" category blank, indicate "Other," and add a "specific," such as, the case involved the robbery of drug dealers by other drug dealers. The definition of systemic unmistakably includes this kind of crime; using the "Other" category was superfluous.

In the same "Specify" box on the collection form, perhaps for emphasis or because the fact merely struck a fancy, the detectives would add another bit

of information regarding the type of weapon used, or the location (dry cleaners used to launder money), or an actor (she was a street gal who traded sex for drugs). None of this information was either gratuitous or irrelevant, but was recorded in the "wrong" place. The collection instrument provided other places for most of the information provided via the "Other" item. In other words, most of the differences (36 cases) recorded as "Drug Transaction" are found in File I data as "Other or Undetermined," with the drug deal element recorded in the "Other, Specify_____" item.

The penchant of detectives to expand in this way on the questions asked provided an unexpected benefit. A number of the "Other" entries contained the type of information someone not "on the scene" could have anticipated. The comments are insightful and will be used in qualitative reports and for purposes of revising the methodology.

Examination of variables that included information seen by the police as more useful forensically indicated that the level of agreement between the data sets would converge in variables defining what was perceived by the police as more meaningful information. Tables 7, 8, and 9 describe this type of information. The elements are use specific and material to the successful clearing of a case.

TABLE 7. *Events by weapons and means used*

Weapon Used	File I n=414	File II n=414
Firearms	285 (68.8%)	283 (68.4%)
Knife or Cutting Tool	83 (20.1%)	81 (19.5%)
Physical Force	20 (4.8%)	29 (7.0%)
Blunt Instrument	17 (4.1%)	14 (3.4%)
Other Means	9 (2.2%)	7 (1.7%)

Among tables 7, 8, and 9, the largest difference is found in table 8 in the "Undetermined" category. Similar to the changes noted above regarding the movement in table 5 of a number of events from "Other" to "Drug Transaction" (and probably for the same reasons), the changes in table 8 are from the "Undetermined" to the "Drug Business Relation" or "Friend" categories. Once again, these categories tend to be more ambiguous and subject to easier misinterpretation than are the other pieces of information. This phenomenon is not at all unusual.

TABLE 8. *Events by victim–perpetrator relationship*

Relationship	File I n=414	File II n=414
Spouse/Boyfriend, Girlfriend	26 (6.3%)	26 (6.3%)
Child, Parent, Sibling	12 (2.9%)	12 (2.9%)
Friend, Neighbor, Acquaintance	82 (19.8%)	104 (25.1%)
Drug Business Relation	33 (8.0%)	112 (27.0%)
Police Officer	4 (.9%)	5 (1.2%)
Stranger	72 (17.4%)	88 (21.3%)
Innocent Bystander	0	5 (1.2%)
Undetermined	178 (43.0%)	62 (15.0%)
Not Available	7 (1.7%)	0

TABLE 9. *Events by location of occurrence*

Location	File I n=414	File II n=414
Vacant Building	5 (1.2%)	5 (1.2%)
Bar	2 (.5%)	2 (.5%)
Commercial Site	12 (2.9%)	15 (3.6%)
Street	181 (43.7%)	185 (44.7%)
Other Public Area	31 (7.5%)	34 (8.2%)
Transit Facilities	2 (.5%)	2 (.5%)
Victim's Residence	83 (20.1%)	80 (19.3%)
Perpetrator's Residence	22 (5.3%)	15 (3.6%)
Victim's and Perpetrator's Residence	8 (1.9%)	12 (2.9%)
Other Residence	37 (8.9%)	38 (9.2%)
Other Location	31 (7.5%)	26 (6.3%)

Cicourel said he is "interested in how we assign unequivocal meaning to" the subject matter of scientific research (Cicourel 1968, p. 3). He noted that provided two observers were from the same culture they could agree on the definition of a table or chair, but as the subject matter became more complicated, "fixed choice" categories in survey instruments tended to confuse more than enlighten. The fact that the other items throughout the three

tables showed a reasonable level of agreement supports Cicourel's observation and the contentions made above.

DISCUSSION AND CONCLUSION

The differences found between the two data sources raise the following questions: Are the police a valid source of information upon which to base scientific inquiry about crime? Is there an inherent bias in data gathered from agencies whose primary reasons for collecting are not compatible with the reasons data are collected by social scientists?

Seeking answers to these questions requires that an examination be made of the manner in which police collect and process information. Like most occupational groups, there is reason to believe that the police record, catalogue, and return information in a manner consistent with their needs. When a detective reconstructs the scene of a crime, the purpose and manner for which information is collected is well defined—clearance of the case—but is often at odds with the purposes for which a social scientist would collect the same information.

For example, a detective sergeant replied, "What's the address?" when he was asked, "What is the primary drug involved in this homicide?" In his mind, apparently, drug-use information was catalogued geographically. For him, if the homicide occurred south of X street, the primary drug involved was, perhaps, cocaine; if north of that street, the drug involved was, perhaps, heroin. In either case, the datum of which drug was actually involved has been lost in the utilitarian or "use-specific" cataloguing of information by the individual officer.

Similarly, the fact that a victim or offender is described as a crack dealer tells the investigating officer not that crack distribution is an important piece of forensic information but that a series of known associates are available for questioning or that certain other pertinent information should be examined. When the police apply the cognomen "crack dealer" or "heroin dealer" to someone, it is done more to describe a particular string of prior known facts about the criminal environment in which he or she acts than to describe the drug-use habits of the individual referred to. Just as easily substituted for "crack dealer" and equally informative (for police purposes) is a geographic term. "The gang south of X street" says as much to a detective as does "crack dealer."

Even when the efforts to emend the collection process of the national data bases are successful, handling of the collected information by the supplying agency will subject it to interpretative bias. This is generally due to the fact that police organizations are hierarchical and the flow of information, in the form of memoranda, directives, general orders, and the like, is from the top downward.

At the operational level, organizational dicta require police officers to record information much as the telephone company lists names and addresses—"individual by individual, to be filed, alphabetically, and consulted only when somebody needs to 'look something up.'" (Wilson 1978, pp. 62-63). Upward communication is minimal, mainly because, as Manning sees it, much of the information available "is retained by lower [ranking] participants primarily as a means of self-protection" (Manning 1977, p. 267). The self-protectionism identifiable in the lower ranks is tacit but apparent in the more general organizational posture, and the latter most probably facilitate the former.

Although Bittner was concerned with uniformed officers, his observation that "the overriding rule is that no one tells anybody else more than he absolutely has to" (Bittner 1980, p. 64) has particular poignancy when applied to detectives. The primary purpose of detectives' investigations are to develop information that has good forensic value. Information is shared on an "as needed" basis to proceed with an arrest or conviction and is only reluctantly shared with other detectives and more reluctantly with outsiders.

To the list of "qualities" a good investigator must have, in which Cohen and Chaiken (1987) put "gathering information" as the first, Skolnick (1986) added that facts must be found in a way that allows them to be used in evidence. Reiss (1971) said that quite often fact finding involves the locating, more than the identification, of an offender. Functionally, detectives gather information for evidence that locates rather than identifies. The geographic classification of drug-use habits and distribution systems, or the "crack dealer" nickname being used to describe what most others perceive as specific characteristics requiring discrete labels is a common practice.

This process is akin to a classification system in which the arrangement of entities into groups is according to some system, some set of principles, or preordained rules (Gottfredson 1987). The characteristics that identify a group are subject to varied interpretation, misunderstanding, and reliability. For an innocent to be "with" a criminal is often to be classed as one, regardless of the reality that the only criminality present is in the associate (Goffman 1963). It is seldom with malicious intent that the police make such use of information. Rather it is a functional and purposeful technique supported both by individual conditioning and organizational practice.

Synergistically, organizational demands, the self-protection and control of information, and a "use-specific" purpose found in the police processing of information create a retrieval system that by its very nature tends to minimize, for scientific purposes, the validity of the subject matter being examined. What is on the surface a supposedly descriptive process is actually a combination of individual interpretation and pragmatism, and the information

from which good descriptive data should flow is, at best, only reluctantly shared with other than its owner. The data seem to reflect this.

The question of a comparable bias in the research data is not one that can be ignored. The neutrality of the specific research variables used in the type of study reported here should be a function of their ability to reflect the association between homicide and drugs, uncomplicated by other interests. Assurance of such objectivity is at best a difficult task.

Social science is not free of role conflicts within the researcher (Rabow 1980). Neutrality is a convention accepted for the sake of convenience in the evaluation of social science research in the hope that "mutual inspection" within the profession will suffice to keep social scientists honest (Gouldner 1968). Hagen (1982) recommended that a decision be made before the research begins regarding the level of commitment the analysts will bring to the task of negotiating the role conflicts that may occur when scientists work in close contact with practitioners. Probably, the type of conflict Hagen and Rabow were concerned with was an alteration of the methodological design that mixed theory with ideology and one or both with operational purposes. Nonetheless, the possibility of researcher bias is not limited to design problems.

Just as the police have a use-specific reason for gathering data, researchers justify their selection of one variable over another or their operational definition of particular variables in terms most easily understood by other sociologists, with all the connotative baggage that implies.

For example, the need for Wolfgang (1975) to separate his sample into "violent" and "nonviolent" homicides makes perfect sense to a social scientist. A person who would stab a victim one single time in a fit of passion requires, for analytical purposes, differentiation from the person who would repeatedly stab and brutalize a victim. The distinction is not so intelligible and clear-cut to the citizen or police officer who might ask: "What is a nonviolent homicidal stabbing?" Luckenbill (1977), separately supported by Block (1985) and Cheatwood (1988), explains that the person who survives a homicidal assault can actually be the victim, while the offending party lies in the morgue. This is a perfectly understandable distinction to those who have studied the interactionist perspective.

It should be kept in mind that the police perception of criminal events and the social scientist perception both may contain a potential bias effect, and neither might be said to truly depict reality. This particular issue will be further examined as the current research continues. It merits study by others.

APPENDIX A: Homicide Counts and Rates (per 100,000)

Year	United States		New York State		New York City	
	Number	Rate*	Number	Rate*	Number	Rate*
1988	20,675	8.4	2,240	12.5	1,895	25.8
1987	20,096	8.3	2,007	11.3	1,672	23.0
1986	20,613	8.6	1,909	10.7	1,582	22.0
1985	18,976	7.9	1,688	9.5	1,384	19.3
1984	18,692	7.9	1,777	10.0	1,446	20.2
1983	19,308	8.3	1,951	11.1	1,622	22.9
1982	21,012	9.1	2,011	11.5	1,668	23.6
1981	22,516	9.8	2,171	12.4	1,826	25.8
1980	23,044	10.2	2,225	12.7	1,814	25.8
1979	21,456	9.7	2,094	11.7	1,733	24.0
1978	19,555	9.0	1,818	10.2	1,508	20.5
1977	19,120	8.8	1,913	10.4	1,553	20.5
1976	18,780	8.8	1,978	10.7	1,622	21.4
1975	20,510	9.6	1,981	10.8	1,645	21.7
1974	20,600	9.7	1,931	10.6	1,557	19.7
1973	19,510	9.3	2,086	11.4	1,681	21.3
1972	18,520	8.9	2,057	11.3	1,693	21.4
1971	17,630	8.5	1,831	10.0	1,469	18.6
1970	15,860	7.8	1,490	8.2	1,159	14.7
1969	14,590	7.8	1,406	8.4	1,114	14.3

SOURCE: Based on data in *Annual Reports*, Bureau of Criminal Justice Statistics Services, Albany: Department of Criminal Justice Services and in *Uniform Crime Reports—Crime in the United States*, Washington, DC: U.S. Department of Justice, Federal Bureau of Investigation.

REFERENCES

Abel, E.L. Drugs and homicide in Erie County, New York. *Int J Addict* 22:195-200, 1987.

Bittner, E. The Functions of the Police in Modern Society. Cambridge, MA: Oelgeschlager, Gunn, and Hain, 1980.

Block, C.R. *Lethal Violence in Chicago Over Seventeen Years: Homicides Known to the Police, 1965-1981.* Chicago: Illinois CJIA, 1985.

Brownstein, H.H.; Goldstein, P.J.; Ryan, P.J.; and Bellucci, P.A. Homicide and Drug Trafficking. Presented to the annual meeting of the Society for the Study of Social Problems, Berkeley, CA, August 1989.

Brownstein, H.H.; Goldstein, P.J.; Ryan, P.J.; and Bellucci, P.A. Drug related homicide in New York State. *National Institute of Justice Research In Brief,* in press.

Cheatwood, D. Is there a season for homicide? *Criminology* 26:287-306, 1988.

Cicourel, A.V. *The Social Organization Of Juvenile Justice.* New York: Wiley, 1968.

Cohen, B., and Chaiken, J. *Investigators Who Perform Well.* Washington, DC: U.S. Department of Justice, National Institute of Justice, 1987.

Cook, P.J. Is robbery becoming more violent: An analysis of robbery murder trends since 1968. *J Crim Law Criminol* 76(2):480-489, 1985.

Ellingwood, E.H., Jr. Assault and homicide associated with amphetamine abuse. *Am J Psychiatry* 127(9):90-85, 1971.

Felson, F.B., and Steadman, H.J. Situational factors leading to criminal violence. *Criminology* 21:59-74, 1983.

Gary, L.E. Drinking, homicide, and the black male. *J Black Stud* 17:15-31, 1986.

Goffman, E. *Stigma.* Englewood Cliffs: Prentice-Hall, 1963.

Goldstein, P.J. *Prostitution and Drugs.* Lexington, MA: Lexington Books, 1979.

Goldstein, P.J. The drugs/violence nexus: A tripartite conceptual framework. *J Drug Issues* 14:493-506, 1985.

Goldstein, P.J. Homicide related to drug traffic. *Bull NY Acad Med* 62(5):509-516, 1986.

Goldstein, P.J., and Brownstein, H.H. Drug related crime analysis—homicide. Report to National Institute of Justice, Drugs Alcohol and Crime Program, 1987.

Goldstein, P.J.; Brownstein, H.H.; Ryan, P.J.; and Bellucci, P.A. Crack and homicide in New York City. A conceptually based event analysis. *Contemp Drug Probl* 16(4):6651-687, 1989.

Goldstein, P.J., and Hunt, D. The impact of drugs on the health of the Nation. Report to Carter Center. Atlanta: Emory University, 1984.

Goodman, R.A.; Mercy, J.A.; Laya, F.; Rosenberg, M.L.; Smith, J.C.; Allen, N.H.; Vargas, L.; and Kolts, R. Alcohol use and interpersonal violence: Alcohol detected in homicide victims. *Am J Public Health* 76:144-149, 1986.

Gordon, C. Rochester faces image of violence. *Rochester Democrat and Chronicle.* January 15, 1989. p. 1.

Gottfredson, D.M. Prediction and classification in criminal justice decision making. In: Gottfredson, D.M., and Tonry, M., eds. *Prediction and Classification.* Vol. 9. In: Tonry, M., and Morris, N., eds. *Crime and Justice: A Review of Research.* Chicago: Chicago University, 1987. pp. 1-20.

Gouldner, A.W. The sociologist as partisan: Sociology and the welfare state. *Am Sociologist* 3:103-116, 1968.

Graham, M.C. Controlling drug abuse and crime: A research update. *NIJ Reports* March/April, 1987.

Gropper, B.A. Probing the links between drugs and crime. *National Institute of Justice Research in Brief,* February 1985.

Hagen, F.E. *Research Methods in Criminal Justice and Criminology.* New York: MacMillian, 1982.

Hopkins, D.D.; Grant-Worley, J.A.; and Bollinger, T.L. Survey of cause-of-death query criteria used by State vital statistics programs in the U.S. and the efficacy of the criteria used by the Oregon Vital Statistics Program. *Am J Public Health* 79(5):570-574, 1989.

Inciardi, J. The drugs crime connection. In: Inciardi, J., ed. *The War on Drugs: Heroin, Cocaine, and Public Policy.* Palo Alto, CA: Mayfield, 1986. pp. 115-430.

Innes, C.A. State prison inmate survey, 1986: Drug use and crime. *Bureau of Justice Statistics, Special Report,* July 1988.

James, G. Crime totals confirm fears in Queens. *New York Times,* April 21, 1988. pp. B1, B6.

Johnson, B.D.; Goldstein, P.J.; Preble, E.; Schmeidler, J.; Lipton, D.S.; Spunt, B.; and Miller, T. *Taking Care of Business: The Economics of Crime by Heroin Abusers.* Lexington, MA: Lexington Books, 1985.

Johnson, C. Homicide linked to drug use in the District of Columbia. *The CJSA Forum* 7(1):4-6, 1989.

Langevin, R.; Paitich, D.; Orchard, B.; Handy, L.; and Russon, A. The role of alcohol, drugs, suicide attempts and situational strains in homicide committed by offenders seen for psychiatric assessment. *Acta Psychiatr Scand* 66(3):229-242, 1982.

Loftin, C. The validity of robbery-murder classifications in Baltimore. *Violence Victims* 1(3):191-203, 1986.

Luckenbill, D.F. Criminal homicide as a situated transaction. *Soc Probl* 25(2):176-186, 1977.

Manning, P.K. *Police Work: The Social Organization of Policing.* Cambridge, MA: MIT, 1977.

Martz, L.; Miller, M.; Hutchinson, S.; Emerson, T.; and Washington, F. A tide of drug killing. *Newsweek,* January 16, 1989. pp. 44-45.

Molotsky, I. Capital's homicide rate is at a record. *New York Times,* October 30, 1988.

Montefore, J., and Spitz, M. Narcotics abuse among homicides in Detroit. *J Forensic Sci* 20:186-190, 1975.

Poggio, E.C.; Kennedy, S.D.; Chaiiken, J.M.; and Carlson, K.E. *Blueprint for the Future of the Uniform Crime Reporting Program.* Washington, DC: U.S. Department of Justice, 1988.

Rabow, J. Research and rehabilitation: The conflict of scientific and treatment roles in corrections. In: Talarico, S.M., ed. *Criminal Justice Research: Approaches, Problems and Policy.* Cincinnati, OH: Anderson, 1980.

Reiss, A.J., Jr. *The Police and the Public.* New Haven: Yale University, 1971.

Ryan, P.J. Bias in the processing of crime data: A comparison of police and social scientist constructs of the drug/homicide nexus. Dissertation for City University of New York. Ann Arbor, MI: University Microfilms International, 1990.

Ryan, P.J.; Goldstein, P.J.; Brownstein, H.H.; and Bellucci, P.A. Homicide and Drugs: New York City, 1988. Presented at the annual meeting of the American Society of Criminology, Reno, NV, November 1989.

Schlesinger, S.R. Redesign of the National Crime Survey and the Uniform Crime Reporting Program. In: Woodworth, S.S., ed. *Proceedings of the Third Workshop on Law and Justice Statistice.* Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 1985 pp. 1-5.

Shellow, R. Drug abuse and crime: Fact or fancy? *J Drug Issues* 6:131-147, 1976.

Skolnick, J. *Justice Without Trial.* 2d ed. New York: MacMillan, 1986.

USA Today. Drug related homicide. April 14, 1987. p. 12.

Vaillant, G.E. A twelve-year follow-up of New York narcotic addicts: The relation of treatment to outcome. *Am J Psychiatry* 122(7):727-737, 1966.

Walton, R. *Address to National Institute on Drug Abuse, Technical Review.* Washington, DC, September 25, 1989.

Wiesmann, J.C. Understanding the drugs and crime connection. In: Wiesmann, J.C., and Du Pont, R.L., eds. *Criminal Justice and Drugs: The Unsolved Connection.* Port Washington, NY: Kennikat, 1982. pp. 42-73.

Wilcox, D.E. Characteristics of seventy one convicted murderers. *Am J Forensic Psychiatry* 7(2):48-52, 1986.

Wilson, J.Q. *Varieties of Police Behavior.* Cambridge: Harvard University, 1978.

Wolff, C. As drug trade rises in Hartford, so does violent crime. *New York Times,* June 14, 1988. pp. A1, B4.

Wolfgang, M. Patterns in criminal homicide. *Patterson Smith Series in Criminology, Law Enforcement and Social Problems, No. 211.* Montclair, NJ: Patterson Smith, 1975.

Woodworth, G.G., ed. *Proceedings of the Third Workshop on Law and Justice Statistics, 1985.* Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 1985.

Zahn, M., and Bencivengo, M. Violent death: A comparison between drug users and non-users. *Addict Dis* 1:283-296, 1974.

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Summary Thoughts About Drugs and Violence

James J. Collins

INTRODUCTION

This final chapter will not repeat in any detail the points made in earlier chapters. Rather, I will make some general statements about the drugs–violence connection, point to the undue influence of popular myths about the drug problem on research and public policy enterprises, and make research recommendations. After early discussion on Goldstein's (1985) tripartite framework, this chapter argues the need for revision of this framework and suggests a more comprehensive conceptual model.

I contend that the most important aspects of the drugs–violence relationship are those associated with violence in the drug distribution system. Because so little is known systematically about this phenomenon, I suggest where attention should be focused to generate scientific and policy-relevant understanding.

PHARMACOLOGICAL, ECONOMIC COMPULSIVE, AND SYSTEMIC VIOLENCE

In his groundbreaking article, Goldstein (1985) proposed three ways that drugs and violence can be related to each other: (1) the *pharmacological* effects of the drug on the user can induce violent behavior, (2) the high cost of drug use often impels users to commit *economic compulsive* violent crime to support continued drug use, and (3) violence is a common feature of the drug distribution system. This last category, which Goldstein calls *systemic* violence, serves a variety of purposes such as protection or expansion of drug distribution market share or retaliation against market participants who violate the rules that govern transactions.

Three chapters in this volume (Fagan, Miller, and Teplin) and the research literature in general indicate that drug-induced pharmacological violence is uncommon. Stated another way, there is virtually no evidence that the

pharmacological effects of drugs (alcohol excepted) account for a substantial proportion of drug-related violence. Some qualitative and quantitative data suggest that crack (Honer et al. 1987; Manschreck et al. 1988), PCP (Fauman and Fauman 1982; Simonds and Kashani 1980), amphetamines (Ellinwood 1971; Asnis and Smith 1978; Fink and Hyatt 1978), and barbiturates (Goodman et al. 1986; Tinklenberg and Woodrow 1974; Tinklenberg 1973) have a pharmacolgic relationship to violence. These studies are not methodologically strong, however, because they tend to rely on small and specialized samples and tend *not* to control for multiple correlates of violence. The bulk of the evidence suggests a weak or nonexistent relationship, especially when demographic and criminal history factors are included in analyses as control variables. My own research is consistent with this finding (Collins et al. 1989). Moreover, drug users themselves agree with this conclusion. Drug users typically say that their drug use has no relation to violence (Collins et al. 1989; Fagan, this volume), although the delinquents in the Tinklenberg and Woodrow (1974) study identified barbiturates as the drug most likely to increase aggression.

There is considerable evidence of a relationship between drugs and economic compulsive violence. Robbery typifies economic compulsive violence. The strong correlation between the frequent use of expensive and addictive drugs such as heroin and cocaine and involvement in crimes to generate cash is well known (Ball et al. 1981; Chaiken and Chaiken 1982; Collins et al. 1985; Johnson et al. 1985). Costly drug use is clearly an important correlate of the threatened or actual violence associated with robbery—an offense that generates quick cash that can be spent to purchase drugs.

The most important violence outcomes associated with drug use are those that Goldstein refers to as systemic. This violence has been prominently featured in the media in recent years. The death and bloodshed associated with the drug distribution system take a heavy toll on the market participants themselves. Moreover, this violence often spills beyond those involved in illegal drug transactions and affects nonparticipants directly through injury or death and indirectly by disrupting community life. As discussed later, however, systemic drug violence ought not be viewed as a simple function of drug transactions. Complex social and economic factors are also involved.

Research on the violence that characterizes drug distribution settings is scarce. The limited research, journalistic accounts, and anecdotal evidence do permit descriptions of some features of the phenomenon. Drug distribution system violence tends to occur (at least most visibly) in areas that:

- are socially disorganized, that is, in which formal and informal social control is absent or ineffective;
- have traditionally high rates of interpersonal violence; and
- are economically disadvantaged.

These features of the phenomenon have implications for understanding the problem systematically. In his analysis of the future of violent crime, Skogan (1989) identifies several fundamental features of American life that help account for violence. Two of them, economic hardship and family and community social disorganization, appear to be important to the understanding of drug distribution system violence. Drug traffickers appear to come disproportionately from groups and places that are economically disadvantaged—in which selling drugs is an attractive option despite the risks. Reuter et al. (1990) suggest that drug dealing is more financially rewarding than other kinds of crime. In Skogan's (1989) view, the ". . . theoretical linkage between hardship and violent crime is provided by the structural strain approach to understanding violence. In this view, violence is rooted in structurally induced frustration" (Skogan 1989, p. 242). Understanding drug system violence also will probably require understanding how economic opportunity is linked to involvement in trafficking.

The association of community disorganization and drug distribution violence suggests the need for empirical data to understand *how* these phenomena are related. For example, which comes first? Does community disorganization allow drug markets to become established, or do drug markets in an area precipitate other breakdowns? The association probably is not simple. Drug markets may flourish in areas that are deteriorating and accelerate that deterioration.

Drug distribution system violence can be seen as an economic phenomenon rooted in political and social contexts. Haller (1989) compared it with the violence associated with bootlegging during prohibition. Haller thinks drug distribution violence is more prevalent partly because the heavy criminal penalties associated with heroin and cocaine distribution create a multilayered distribution system with multiple transactions that are potentially unstable and dangerous. Buyers and sellers fear being ripped off by one another. Haller (1989) further argues that "Ironically enough, one effect of policies . . . to deal harshly with drug dealers may have been to increase violence within heroin and cocaine markets and thus to increase the degree to which drug dealing has been controlled by men willing to kill for profit" (Haller 1989, p. 160). Fagan (this volume) makes a similar point, arguing that individuals unwilling to use violence or to risk exposure to it may avoid drug dealing.

There is a literature in the community and social ecology genre that examines the relationship of formal and informal social control, social change, economic conditions, and other factors to crime in social units such as cities and neighborhoods (Reiss and Tonry 1986; Sampson 1987; Taylor and Covington 1988). This literature may guide the study of drug distribution system violence. Research on the drug problem has tended to focus on a single or a small number of variables. That approach may not be appropriate to understanding drug distribution system violence, which appears to be grounded in collective conditions such as neighborhood deterioration.

Finally, a point about the current prevalence of drug distribution violence should be made. Journalistic accounts can lead one to conclude that violence associated with drug distribution has increased in the last few years. It is easy to identify cities and neighborhoods where it has emerged recently as a serious problem. I suggest, however, that evidence of a general increase in drug distrubution violence is not conclusive for two reasons. First, because drug distribution is geographically mobile, moving from place to place, we may simply be seeing its disappearance in one place and its emergence in a new location. Second, the proliferation of deadly weapons may simply have made drug distribution system violence more lethal and visible. When violence occurs, death and serious injury may be more likely.

MYTHICAL DIMENSIONS OF THE DRUG PROBLEM

The rise of the drug problem on the national agenda has helped focus attention and resources on the problem. Unfortunately, strong concern about the drug problem also encourages public rhetoric that mischaracterizes the problem and that may result in misguided policies and resource commitments. The claims that youth gangs are heavily involved in drug trafficking and violence in an organized way is an example of an apparent myth with the potential to misguide interventions.

A recent report to the President characterized gang involvement in drug trafficking as follows:

> . . . California is home to one of the most dangerous and menacing developments in drug trafficking, the large scale organized street gang . . . The Los Angeles gangs are radiating out from the areas where they originated—up the West Coast as far as Seattle and Vancouver, into the heartland as far as Denver, Kansas City, and Chicago, and even to cities on the East Coast . . . One of the most frightening aspects of California street gangs is their willingness to direct their violence at each other, at the police, at members of the public—at anyone who stands in the way of their operations. (U.S. Attorneys and the Attorney General of the United States 1989, pp. 33-35)

This report clearly suggests that street gangs are making a calculated, organized, and ruthless attempt to expand their drug-trafficking activities across the country and to solidify control over drug distribution. There is virtually no systematic evidence to support this characterization. Moore (this volume) points out that sensationalized media and police accounts are almost the sole source of information on gang involvement in crack distribution. She further points out that organized gang involvement in drug distribution is not the norm. Recent research by Fagan on gangs in three cities (1989)

also suggests that gangs differ from each other in their involvement in drug sales and violence and, further, that "some incidents no doubt are precipitated by disputes over drug sales or selling territories, but the majority of violent incidents do not appear to involve drug sales" (Fagan 1989, pp. 660-661).

To argue that youth gangs are not typically involved in drug trafficking in an organized way is not to argue that gang members are not involved individually. There is good evidence that juvenile gang members are frequently involved in a wide variety of illegal behaviors—including drug sales. The evidence that youth gangs systematically organize and operate drug markets is poor, and this characterization probably seriously misrepresents reality. The myth of youth gang drug trafficking, to the extent that it results in public action and resource commitment, is counterproductive to dealing with the drug problem constructively.

The above does not argue that drug trafficking lacks formal organization, however. The drug distribution system is quite complex and often involves formal organization. The system is not monolithic—either vertically throughout the distribution levels or geographically. Multiple organizations participate at wholesale and retail levels and in different areas. There is a tendency to ignore this multiplicity and to see fully organized conspiracies where none exist. Exaggerated rhetoric about gang control of drug trafficking is an example.

The U.S. drug problem has proven to be quite intractable—apparently worsening in the face of major attempts to control it. One apparent effect of this intractability and failure to "win the war against drugs" is the identification of bogeymen with concomitant attempts to bring this identified enemy under control. The unfortunate effects are that resources are misallocated, and the failure of misguided policies encourage pessimism and a search for new bogeymen.

The tendency to mischaracterize and sensationalize the drug problem is, in part, a function of the political and public funding processes. Gangs, for example, are a natural focal point for political rhetoric about the "war on drugs." Gangs are not constituencies the politicians need worry about alienating. Belief in the threat of gangs can also be used to argue for law enforcement budget increases to help police to neutralize the threat.

Research provides a real opportunity to neutralize the mythical dimensions of the drug problem. Careful research provides accurate description, and can help, over time, to minimize the damage caused by focusing public attention and resources on phantom problems.

NEED TO RECONCEPTUALIZE THE TRIPARTITE FRAMEWORK

Goldstein's (1985) concept of pharmacological, economic compulsive, or systemic violence helped refine thinking about the relation between drug use and violent behavior. Goldstein's influence is clearly apparent in the chapters of this volume and in other work published on the drugs–violence connection. A first step in the next stage of conceptual development is to develop a framework that incorporates the considerable complexity of the drugs–violence connection. The complexity is manifested in two major ways: (1) the three components of the tripartite framework (pharmacological, economic compulsive, systemic) are themselves not simple or mutually exclusive, and (2) factors other than the three concepts also contribute to the occurrence of drug-related violence.

Psychoactive substances have different pharmacological effects; they may induce euphoria, act as a stimulant or depressant, result in altered perceptions, and have a variety of other effects. Effects are immediate (minutes, hours), moderate term (hours, days), and long term (months, years). Immediate and longer term effects of the same drug are often different—initial euphoria followed by depression, for example. The behavioral manifestations of drug effects also differ. Goldstein (1989) suggests, for example, that irritability associated with drug withdrawal can increase the likelihood of violence. In a discussion of how alcohol precipitates violence, Pernanen (1981) focuses on cognitive impairment. The point is that the pharmacological concept is complex. Distinctions in drug pharmacology and associated effects on mood and behavior are required to generate better understanding of the drugs–violence connection.

Typical drug-use patterns also underline the complexity of pharmacologic violence. Drug users commonly use multiple drugs together (cocaine and heroin, marijuana and PCP, etc.) or a variety of drugs on different drug-use occasions. Alcohol use is pervasive among many drug users. Thus, interactions between various psychoactive substances are likely to occur. Pharmacologic effects also do not operate independently. Individual psychology, situational factors, and cultural orientation combine with the effects of drugs to shape behavior. Cultural influences, for example, help account for violent behavior; Wolfgang and Ferracuti (1967) reviewed and attempted to integrate much of the evidence for a "subculture of violence."

Economic compulsive violence (robbery), even by an addict intent on getting money to feed his or her drug habit, likely has multiple roots. Robbery proceeds may be sought for multiple purposes. The act may be retaliatory as well as acquisitive, for example. Drug distribution system violence should be considered in a multifactoral framework that considers social and economic conditions.

Violence, too, is a complex phenomenon. Violent interactions between individuals have complex etiological roots—typically involving individual, situational, and cultural factors. Violence associated with drug use or distribution is not unique in this regard; it does not evolve simply from the pharmacological, economic compulsive, or distributional influences of drug use. The above discussion suggests that the influence of drugs on violence should be considered in a complex behavioral model.

The categories listed below identify the major factors thought to be associated with violence generally, with special attention given to drugs–violence issues.

Antecedent Influences

Developmental:	early injury, abuse, or neglect; socialization experiences
Cultural:	norms, values, beliefs

Current Conditions

Drug Pharmacology:	cognitive impairment, emotional lability
Social:	community disorganization, social control
Economic:	opportunity, compulsion
Situational:	location, environment

It is suggested that all of the above factors are associated with the propensity to act violently. Considering antecedent influences, there is evidence, for example, that being the victim of child abuse is a risk factor for subsequent violence (Widom 1989). Cultural (or subcultural) factors affect the tendency to act violently. Depending on enculturation experience—the content and internalization of norms, values, and beliefs—individuals are more or less inclined to be violent.

The factors listed under "current conditions" affect the occurrence of drug-related violence. The pharmacological effects of drugs might help account for violence in at least two different ways: by drug-induced cognitive impairment, e.g., paranoia, and emotional lability, e.g., irritability.

Social factors such as community disorganization and social control are known to be associated with both drug use and violence. Drug use and drug distribution system violence typically occur in disorganized communities where such things as family stability and effective social control mechanisms are weak. Sampson (1987) and Taylor and Covington (1988) have shown how a variety of economic and social features of neighborhood and family life are associated with violence. The latter study examined the effects of social disorganization and relative deprivation in Baltimore neighborhoods and found declining status to be associated with increases in violence. At an individual level, Goldstein has pointed to the compulsive

violence sometimes engaged in to support continued drug use. Drug trafficking can also be viewed as an economic opportunity for those who are blocked from commensurately rewarding legitimate avenues to financial success. The choice of drug trafficking as an occupation may be associated with the willingness to engage in violence. Fagan (this volume) thinks a selection process may operate that attracts individuals to crack distribution who are not averse to violence.

Finally, situational factors will shape the likelihood and type of violence. Selling crack on a street corner, for example, may involve a higher risk of violence for a seller than selling in a crack house (Mieczkowski, this volume).

Figure 1 illustrates a scheme for organizing thinking and research about drug-related violence. It incorporates all of the above factors, some of which operate at the level of the individual, others of which operate at a collective level. The arrows indicate hypothesized direct and indirect effects. The model represents the influence of factors temporally. Developmental and cultural effects are suggested to have their influence in early life. Drug pharmacology, social, and economic factors are represented as having contemporary effects. Situational factors are those influences most proximate to the occurrence of the violence.

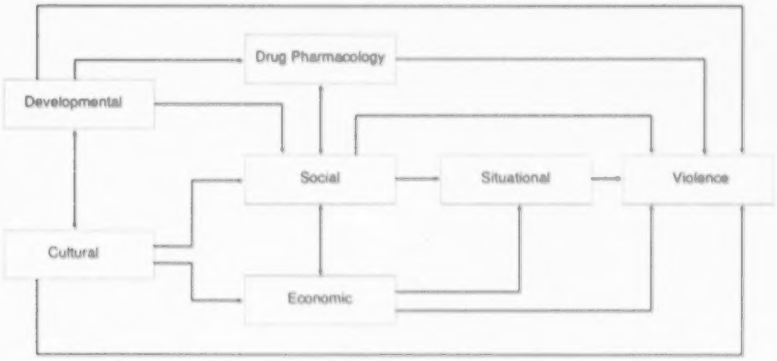

FIGURE 1. *Conceptual scheme for organizing understanding of the drugs–violence relationship*

The model needs more formal development but is an initial attempt to interpret some of what is known of past findings and to suggest an approach for organizing future research. The model is ambitious and clearly not fully

testable by any single study. It is meant to be a heuristic conceptual device to promote the further development of understanding of violence, especially that associated with drug use and distribution.

CONCLUSION

Several points have been argued in this chapter:

- the pharmacologic effects of drugs (alcohol excepted) are not major factors accounting for interpersonal violence when demographic and other correlates of violence are controlled;
- costly drug use is etiologically important to the occurrence of robbery;
- drug distribution system violence is an important contemporary problem in need of systematic attention from researchers;
- myths have tended to grow up around the drug problem for political and economic reasons;
- the tripartite conceptual framework for understanding drugs and violence needs elaboration; and
- the most appropriate conceptual model for understanding the drug and violence relationship is one that incorporates multiple factors including social, economic, and cultural variables.

Violence in general and violence associated with drug distribution seriously threatens some communities. If media and anecdotal accounts are accurate, some communities (neighborhoods) have been able to reduce or alleviate the problem by collective action. This suggests an understanding of the problem by its victims that probably equals or surpasses that of social scientists. It also highlights the fact that features of community life are important to the occurrence and control of violence. Better scientific understanding of the phenomenon will depend in part on the capacity of the social sciences to develop and test explanatory models that incorporate both individual and community factors.

REFERENCES

Asnis, S.F., and Smith, R.C. Amphetamine abuse and violence. *J Psychedelic Drugs* 10(4):371-377, 1978.

Ball, J.C.; Rosen, L.; Flueck, J.A.; and Nurco, D.N. The criminality of heroin addicts when addicted and when off opiates. In: Inciardi, J.A., ed. *The Drugs–Crime Connection.* Beverly Hills, CA: Sage, 1981. pp. 39-65.

Chaiken, J., and Chaiken, M. *Varieties of Criminal Behavior.* Santa Monica, CA: Rand, 1982.

Collins, J.J.; Hubard, R.L.; and Rachal, J.V. Expensive drug use and illegal income: A test of explanatory hypotheses. *Criminology* 23(4):743-764, 1985.

Collins, J.J.; Powers, L.L.; and Craddock, A. *Recent Drug Use and Violent Arrest Charges in Three Cities.* Research Triangle Park, NC: Research Triangle Institute, 1989.

Ellinwood, E.H. Assault and homicide associated with amphetamine abuse. *Am J Psychiatry* 127(9):1170-1175, 1971.

Fagan, J. The social organization of drug use and drug dealing among urban gangs. *Criminology* 27(4):633-669, 1989.

Fauman, B.J., and Fauman, M.A. Phencyclidine abuse and crime: A psychiatric perspective. *Bull Am Acad Psychiatry Law* 10(3):171-176, 1982.

Fink, L. and Hyatt, M.P. Drug use and criminal behavior. *J Drug Educ* 8(2):139-149, 1978.

Goldstein, P.J. The drugs–violence nexus: A tripartite conceptual framework. *J Drug Issues* 15:493-506, 1985.

Goldstein, P.J. Drugs and violent crime. In: Weiner, N.A., and Wolfgang, M.E., eds. *Pathways to Criminal Violence.* Newbury Park, CA: Sage, 1989. pp. 16-48.

Goodman, R.A.; Merry, J.A.; and Rosenberg, M.L. Drug use and interpersonal violence: Barbiturates detected in homicide victims. *Am J Epidemiology* 124(5):851-855, 1986.

Haller, M.H. Bootlegging: The business and politics of violence. In: Gurr, T.R., ed. *Violence in America.* Vol. 1. Newbury Park, CA: Sage, 1989. pp. 146-162.

Honer, W.G.; Gewirtz, G.; and Turey, M. Psychosis and violence in cocaine smokers. *Lancet* II, 8556:451, 1987.

Johnson, B.D.; Goldstein, P.J.; Preble, E.; Schmeidler, J.; Lipton, D.S.; Spunt, B.; and Miller, T. *Taking Care of Business: The Economics of Crime by Heroin Abusers.* Lexington, MA: Lexington Books, 1985.

Manschreck, T.C.; Allen, D.F.; and Neville, M. Freebase psychosis: Cases from a Bahamian epidemic of cocaine abuse. *Compr Psychiatry* 28(6):555-564, 1988.

Pernanen, K. Theoretical aspects of the relationship between alcohol and crime. In: Collins, J.J., ed. *Drinking and Crime: Perspectives on the Relationship Between Alcohol Consumption and Crime Behavior.* New York: Guilford Press, 1981.

Reiss, A.J., and Tonry, M., eds. *Communities and Crime.* Chicago: University of Chicago Press, 1986.

Reuter, P.; Macoun, R.; and Murphy, P. *Money from Crime: A Study of the Economics of Drug Dealing in Washington, D.C.* Santa Monica, CA: Rand Corporation, 1990.

Sampson, R. Urban black violence: The effect of male joblessness and family disruption. *Am J Sociol* 93:348-382, 1987.

Simonds, J.F., and Kashani, J. Specific drug use and violence in delinquent boys. *Am J Drug Alcohol Abuse* 7(3,4):305-322, 1980.

Skogan, W.G. Social change and the future of violent crime. In: Gurr, T.R., ed. *Violence in America.* Vol. 1. Newbury Park, CA: Sage Publications, 1989. pp. 235-250.

Taylor, R.B., and Covington, J.B. Neighborhood changes in ecology and violence. *Criminology* 26(4):553-589, 1988.

Tinklenberg, J.R. Drugs and crime. In: *National Commission on Marihuana and Drug Abuse, Drug Use in America: Problem in Perspective.* Appendix, Vol. 1. Washington, DC: U.S. Govt. Print. Off., 1973. pp. 242-299.

Tinklenberg, J.R., and Woodrow, K.M. Drug use among youthful assaultive and sexual offenders. *Aggression* 52:209-224, 1974.

U.S. Attorneys and Attorney General of the United States. *Drug Trafficking. A Report to the President of the United States.* Washington, DC: Office of the Attorney General, 1989.

Widom, C.S. The intergenerational transmission of violence. In: Weiner, N.A., and Wolfgang, M.E., eds. *Pathways to Criminal Violence.* Newbury Park, CA: Sage, 1989. pp. 137-201.

Wolfgang, M.E., and Ferracuti, F. *The Subculture of Violence.* London: Tavistock, 1967.

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